JOURNAL
OF THE
AMERICAN VETERINARY MEDICAL ASSOCIATION

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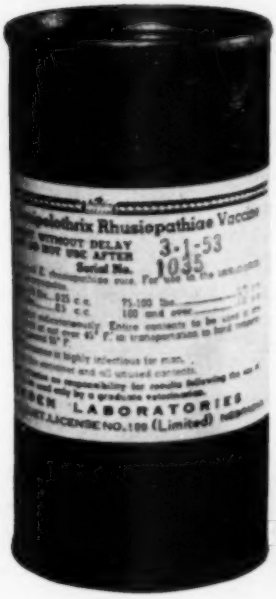

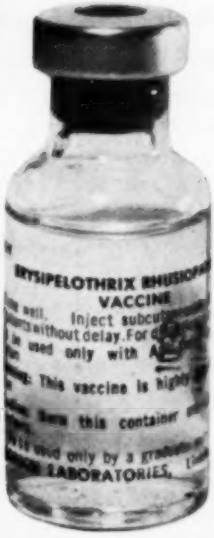

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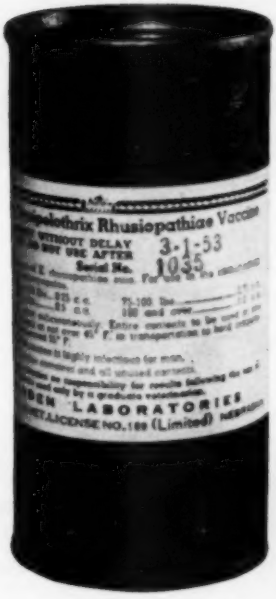

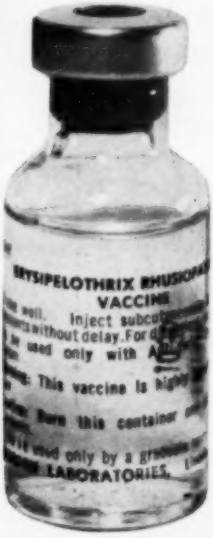

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$10.00 per annum Foreign $10.50; Canada $10.50 Single Copies $1.00 Prepaid in U.S.

Published monthly at 600 S. Michigan Ave., Chicago, Ill., by the American Veterinary Medical Association. Entered as second class matter August 10, 1932, at the Post Office at Chicago 5, Illinois, under the act of March 3, 1879. Additional entry at Mendota, Ill. Accepted for mailing at special rate of postage provided for in Section 538, act of February 28, 1925, authorized August 10, 1932. Reproduction of any part of this publication is prohibited, unless special permission is given. Permission will be given if the purpose seems justifiable and, in signed articles, if the rights or requests of author are not violated thereby. Reprints should be ordered in advance. Prices will be quoted after publication. Please send prompt notice of change of address, giving both old and new. Advise whether the change is temporary or permanent. Address all correspondence to American Veterinary Medical Association, 600 S. Michigan Ave., Chicago 5, Ill.

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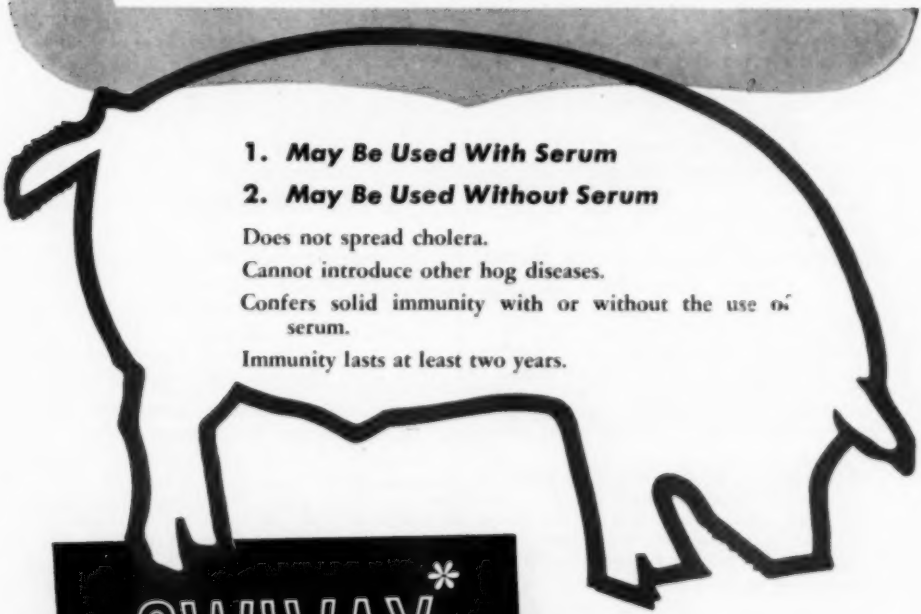

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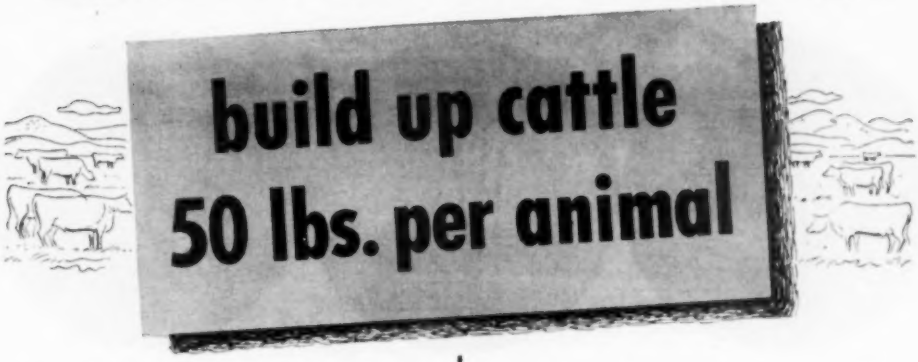

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AVMA ☆ Report

Veterinary Medical Activities

✦ President-Elect J. A. McCallam represented the AVMA at hearings held by the Senate Armed Services Committee on May 21. The Senate Committee received testimony relative to the extension of the Doctor Draft Law which has already passed the House of Representatives. For details *see* the "News from Washington," page 64.

★ ★ ★ ★

✦ Editor-in-Chief W. A. Aitken discussed diseases of swine and/or cattle at the Texas Conference for Veterinarians, College Station, Texas, on June 4 and 5; at the Kansas Veterinary Conference, Manhattan, on June 6; and at the Georgia Veterinary Medical Association meeting at Atlanta, on June 22 and 23.

★ ★ ★ ★

✦ Assistant Executive Secretary C. D. Van Houweling represented the Association at the annual meeting of the North Dakota Veterinary Medical Association held in Minot on June 15 and 16. He also visited the school of veterinary medicine at the University of Minnesota enroute to the meeting.

★ ★ ★ ★

✦ The convention facilities of San Antonio, Texas, were inspected on June 23 by Dr. C. D. Van Houweling. The Bexar County and Texas state veterinary medical associations have invited the AVMA to hold the 1956 annual meeting in San Antonio. The site for the 1956 Convention will probably be decided at the 1953 annual meeting in Toronto.

★ ★ ★ ★

✦ The Association's Committee on Food and Milk Hygiene met in the central office on May 19 to study the proposed poultry inspection code and ordinance. Present were Dr. R. J. Helvig, *chairman*, Lt. Col. George D. Batcheldor, Drs. J. W, Cunkelman, R. Allen Packer, C. H. Pals, H. J. Stafseth, and H. E. Kingman, Jr.

★ ★ ★ ★

✦ President-Elect J. A. McCallam represented the Association at the meeting of the Council on National Emergency Medical Service of the A.M.A. in New York City on May 31.

On June 1, he represented the Association at the meeting of the House of Delegates of the American Medical Association held in conjunction with its annual convention in New York, June 1-5.

★ ★ ★ ★

✦ There will be at least 12 outstanding scientific exhibits presented at the Ninetieth Annual Meeting, which will supplement the scientific program of the six sections.

★ ★ ★ ★

✦ Executive Secretary J. G. Hardenbergh and Mr. Russell Rongren, director of membership services for the AVMA, attended the June 16 meeting of the Committee on Local Arrangements for the 1953 Convention.

★ ★ ★ ★

✦ The AVMA had an educational exhibit on tumors at the A.M.A. convention in New York which was attended by Dr. N. R. Brewer, chairman of the Special Committee on Scientific Exhibits, and by Dr. J. A. McCallam.

★ ★ ★ ★

✦ The Council on Education held its annual spring meeting at the AVMA office on May 25. In attendance were Drs. N. W. Pieper, *chairman*, R. E. Rebrassier, *secretary*, J. Farquharson, S. W. Haigler, and Lt. Col W. E. Jennings. During the year, the executive committee of the Council had inspected seven veterinary colleges.

★ ★ ★ ★

✦ The Committee on Animal Health of the National Research Council, which was first activated in 1943 but has been inactive for the past few years, was recently reactivated and met at AVMA headquarters on June 22. Dr. W. A. Hagan is chairman of the committee.

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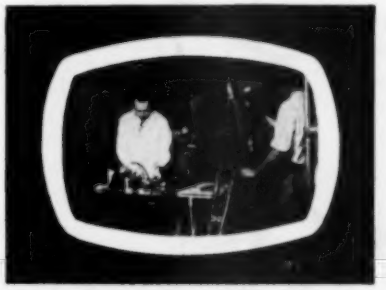

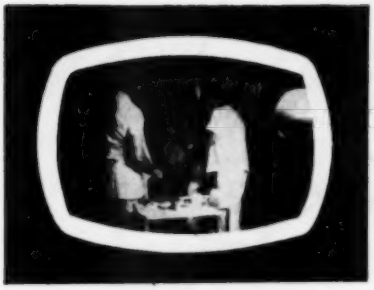

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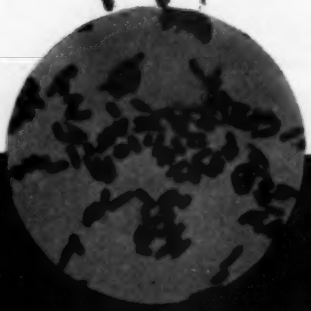

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Small Animals, ½-3 cc.; Large Animals, 5-20 cc.

1. Scott, M. L. Notes on a Successful Effort to Treat Horses Which Bleed, The Blood Horse, LXIV:1008 (Nov.) 1952.
2. Blamey, E. R. Coagulation in Seeping Hemorrhage – Evaluation of Koagamin, J. Am. Vet. M. A. 119:291, 1951.
3. Klausman, B. S. The Use of a New Chemotherapeutic Agent to Arrest Bleeding in Animals, Vet. Med. XLVI: 282 (July) 1951.

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ulcers	retained placenta
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Available in vials of 5 pills, packaged in units of single vials and 20 vials.

References: 1. Am. Vet. 12:17, Jan. 1931; 16:38, Jan. 1935. 2. Vet. Med. 30:480, Nov. 1935.

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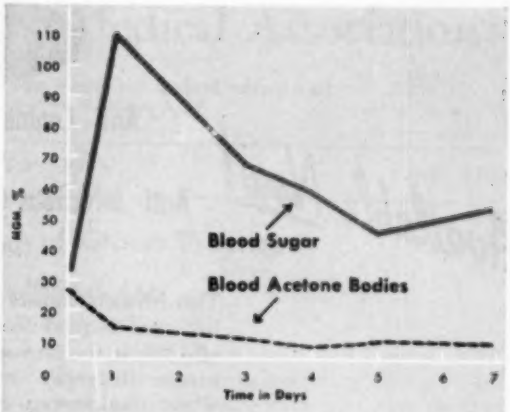

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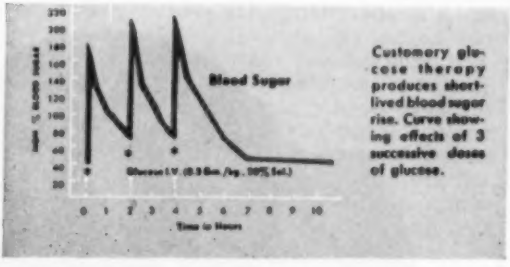

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Journal
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VOL. 123 JULY, 1953 No. 916

The Advantages of Group Practice

V. D. STAUFFER, D.V.M.

Arvada, Colorado

SINCE THE beginning of the science of veterinary medicine, its practice has been accomplished almost exclusively by one-man units which were pretty well self-contained. Undoubtedly, there were excellent reasons why in the past this should have been so. It seems increasingly difficult to justify this situation in many instances today.

Fortunately for the practitioner and the profession, a change is slowly developing —the one-man units are becoming partnerships of two or more men. Let's call it group practice for convenience. There are many advantages associated with group practice which may be mentioned.

It has been said that the average large animal practitioner is falling behind his colleague in the small animal field in the quality of service offered to his client. If true, this is not because knowledge in large animal medicine and surgery is not keeping pace with that of small animal medicine and surgery, but rather because of the conditions under which the large animal practitioner continues, or is forced, to work. He, for instance, does barnyard surgery; he lacks trained help and has poor field facilities, and may lack time. We know that there is a dearth of large animal hospitals and that cases requiring hospitalization for proper treatment or surgery either are neglected or are done in haphazard fashion as the facilities, weather, help, and other conditions permit.

As long as one-man units are doing the bulk of the practice, there probably will not be many more hospitals because one man can not make calls and also be the staff of a hospital. On the other hand, it certainly would be a mistake for every large animal practitioner to have a hospital. In some areas, this would mean duplicating many times the initial outlay, equipment, and staff. It certainly would be convenient and advisable, however, for most practitioners to have a hospital available if one were needed. Is there any reason why veterinarians can not conduct their practices much as physicians do and use a common hospital for those patients requiring hospitalization? It seems that this system would lend itself to large animal practice much more than to small animal practice. There are many areas where the concentration of veterinarians would permit such an enterprise to operate successfully. No doubt this system will be adopted some day but that day is painfully slow in coming.

Certainly the total amount of work accomplished by two men working together should be greater than would be possible by the combined efforts of two men working in individual practices. The work is done in less time and with greater ease. It must follow that there would be a greater income.

The quality of service should certainly be improved, especially with regard to surgery. Many surgical procedures are neglected by the single practitioner that could very well be routine with two men participating. Diagnostic accuracy would be helped in difficult cases with two heads

Dr. Stauffer is a practitioner in Arvada, Colo.

thinking and observing. Also the press of time would not be so overwhelming and emergency cases could often be handled more promptly.

An efficient practice should never have a backlog of "put-off" calls to be taken when more time is available because too often that extra time never arrives. These methods create unrest among the clientele and encourage the development of self-styled "veterinaries" who attempt to treat their own and their neighbors' animals; or, perish the thought, the client may get another veterinarian who isn't so busy.

It is a wonderful feeling to finish the day knowing that everything has been taken care of. This backlog of unfinished work, therefore, is important from another standpoint—it creates a constant worry hanging over the head of the practitioner which certainly is not favorable to a feeling of well-being. Yes, try getting caught up in your work and see how much better you can sleep.

Group practice also makes possible the development of specialties within the practice or the cultivation of a wider range of practice.

We can become too versatile in the practice of veterinary medicine and may well be justly criticized in this respect. An English veterinarian, R. M. Smyth, puts it very well in the June, 1952, issue of the *Veterinary Record*. He states, "We are a profession of individualists, each being an anesthetist, surgeon, obstetrician, radiologist, clinician, and bone-setter—all in one. Any one of us is prepared, at instant notice, to deal with any and every kind of animal. We are ready to diagnose and treat any illness or carry out any type of operation and, in the manner of the true conjurer, we are usually prepared to perform merely with the aid of the apparatus and wherewithal concealed somewhere on or about our persons. We do not work as members of a team; we are self-contained units. We have what it takes!"

It is a question whether or not any one individual can absorb and retain all of the new knowledge that is being gathered daily. Versatility in a profession containing numerous specialists should probably be regarded as a desirable feature. In the veterinary profession, it may eventually be our undoing.

Certainly, any practitioner should feel obligated to handle any and all types of service requested by his clientele in-so-far as he is qualified to do so. He may escape this responsibility, and feel justified in so doing, by refusing to treat certain species of animals. This may be all right in an area where someone else is available to take care of them—but it certainly is not right to neglect a segment of the animal population completely.

The other extreme of attempting to take care of everything regardless of what it is, and doing just half a job of it, certainly is not the answer either. Again it must be admitted that several men working together, developing specialties within the practice, seems to be the proper solution.

We cry with anguish at the encroachment upon our field by drug vendors and feed stores when actually it may be our own fault in not offering a complete service. The single practitioner is more often guilty in this respect. He may not have the time or feel competent to take care of every species of animal. If we want to eliminate the lay diagnosticians and drugstore specialists, we had better fight them with the only weapon we have—our superior knowledge, and by making that knowledge and service available.

It is not just coincidence that where there is a large number of veterinarians, let's say an ample supply to meet the demand for service, the percentage of home treatments and drugstore sales drops markedly. Much of this work is done as a result of necessity because veterinary service is difficult to obtain. If we are looking to the future of our profession, we can not afford to let this situation develop. The quicker we get rid of the castrators, the vaccinators, the calf-pullers, and the purgers, the better off we are going to be. These gentlemen flourish in areas where the veterinary service is not sufficient to supply the demand. These gentlemen are disappearing in regions where veterinary service is sufficient.

How often have you heard the remark "Well, Dad used to do this, but I just never learned how." You can bet your bottom dollar that he would have learned how if he had been forced to through necessity. This new generation of clients should not be forced to develop these skills and the succeeding generation will be further from it than the present one. If we are on our toes, we can see that it does

not happen and at the same time be offering a much better service to the client.

There is probably not a practice in existence that does not have a large undeveloped potential. This potential will never be developed if the veterinarian does not get the additional help to assist him to cultivate it. The service must be made available first. The rest will follow.

It is worth something to live somewhat like a human being is supposed to live: some time off to spend with the family is certainly in order; some civic activity was never known to hurt any practice; some thorough reading of the latest publications can not be done in a fly-by-night existence; and a few leisurely meals certainly helps the digestion. All this can be accomplished without hurting the practice one bit when two or more men are working together. The net result is a more efficient, less rushed, more complete service to the public and a more alert, more pleasant, and happier man to meet them.

Pigs immunized against hog cholera with crystal violet vaccine, followed by virus, became susceptible to artificial infection with *Erysipelas rhusiopathiae.—Vet. Bull., Feb., 1953.*

Time Saver in Brucellosis Testing

Considerable time has been saved at the laboratory of the Livestock Sanitary Board at Helena, Mont., in the routine testing of serum samples for brucellosis, by the use of the stirring comb (fig. 1).

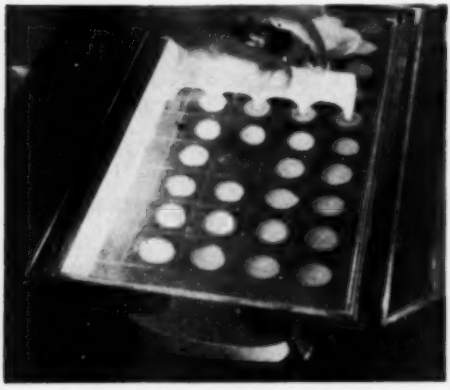

Fig. 1—The stirring comb used in routine testing of serum samples for brucellosis.

This device can be easily made from ⅛-inch plexi-glass. The teeth are cut, by means of a coping saw or hot wire, to center in the spaces of the plate used; 5 teeth for the 50-space plate or 6 teeth for the 72-space plate. Finishing touches can be made with sandpaper or a file. The comb is wiped with a clean towel after each set of samples is stirred.—*A. M. Jasmin, D.V.M., Helena, Mont.*

Research on Hog Cholera Vaccines

Postvaccinational problems from use of the new modified live virus hog cholera vaccines have been investigated. Virulent hog cholera virus was recovered from a few reacting animals. In some instances, a partial dose of commercial hog cholera antiserum would protect pigs against this recovered virus but, in a few cases, even a double dose failed to protect. This field material was shown to be free of other contaminating viruses.—*Rep. Vet. M. Res., Iowa State College, 1952.*

Delayed Rupture of the Spleen

In 2 cases, severe hemorrhages occurred from a ruptured spleen twenty-two and twenty-six days, respectively, after the patient was injured. One was a soldier who had been blown up by a land mine, the other a woman who had fallen from a chair. In each case, the patient recovered after splenectomy. In one study of such cases, hemorrhage occurred during the first seven days after injury in 50 per cent, and during the second week in another 25 per cent. Delayed ruptures of the spleen, after a trivial injury, probably is often reported as spontaneous rupture of a normal spleen. —*Brit. M. J., Feb. 14, 1953.*

Vacuolated Nerve Cells in Rabbits.—Vacuolated cells of the dorsal spinal ganglion of the rabbit, resembling those observed in scrapie of sheep, were present in 14 out of 20 healthy rabbits. They may result from unusual cell activity.—*Vet. Bull., March, 1953.*

A mouse slowly dying from a heavy dose of radiation, similar to that from an atomic bomb, was brought to life by the injection of ground mouse bone marrow.—*Bull. Nat. Soc. M. Res., March-April, 1953.*

Poitevint Animal Hospital

C. H. POITEVINT, D.V.M., B.S.A.

Dothan, Alabama

In planning our hospital for large and small animals, we first purchased a tract of 11 acres of land within the city limits which, at that time, was considered farm land. We were renting a small building nearby which served as a small animal hospital and office.

As we began the improvement of our

Fig. 1—The small animal building of the Poitevint Animal Hospital, Dothan, Ala.

Fig. 2—The runs in the rear of the small animal building.

Fig. 3—The examination and treatment room in the small animal building.

Fig. 4—A section of the steel cages in the small animal building of the Poitevint Animal Hospital, Dothan, Ala.

Fig. 5—The large animal buildings of the Poitevint Animal Hospital, Dothan, Ala.

Fig. 6—The dipping vat in the large animal building, Poitevint Animal Hospital, Dothan, Ala.

property, first we fenced it, dividing it into six different improved pastures. Then we installed a deep well, with plumbing. We maintain connections with the city water system for use in case of an emergency. A section of the large animal hospital was constructed, which included two box stalls, a feed room, and a small office.

Our small animal hospital was constructed in 1945. We used concrete blocks with stucco on the outside, bondexed. Inside front areas are plastered and the walls of the kennel rooms are painted with cement paint. Floors are all cement and all have asphalt tile, except the kennel room floors; the cement for these floors is colored red. Kennel rooms have drains and the floors slope gradually to facilitate flow of water when cleaning the kennels. All cages, which are made of steel, have removable bottoms. These are easily removed for cleaning and sunning. Odors are thus kept to a minimum.

Outside runs for dogs have sloping concrete floors that drain into the city sewer system. The construction of these runs are three concrete blocks high, bondexed white, and a cyclone fence with steel posts, and tarpaulins over each run for shade in summer.

Large animal facilities were planned with the realization that many farmers will gladly bring their animals in for certain types of vaccinations, operations, and other services which can be rendered at a more reasonable fee than would be possible

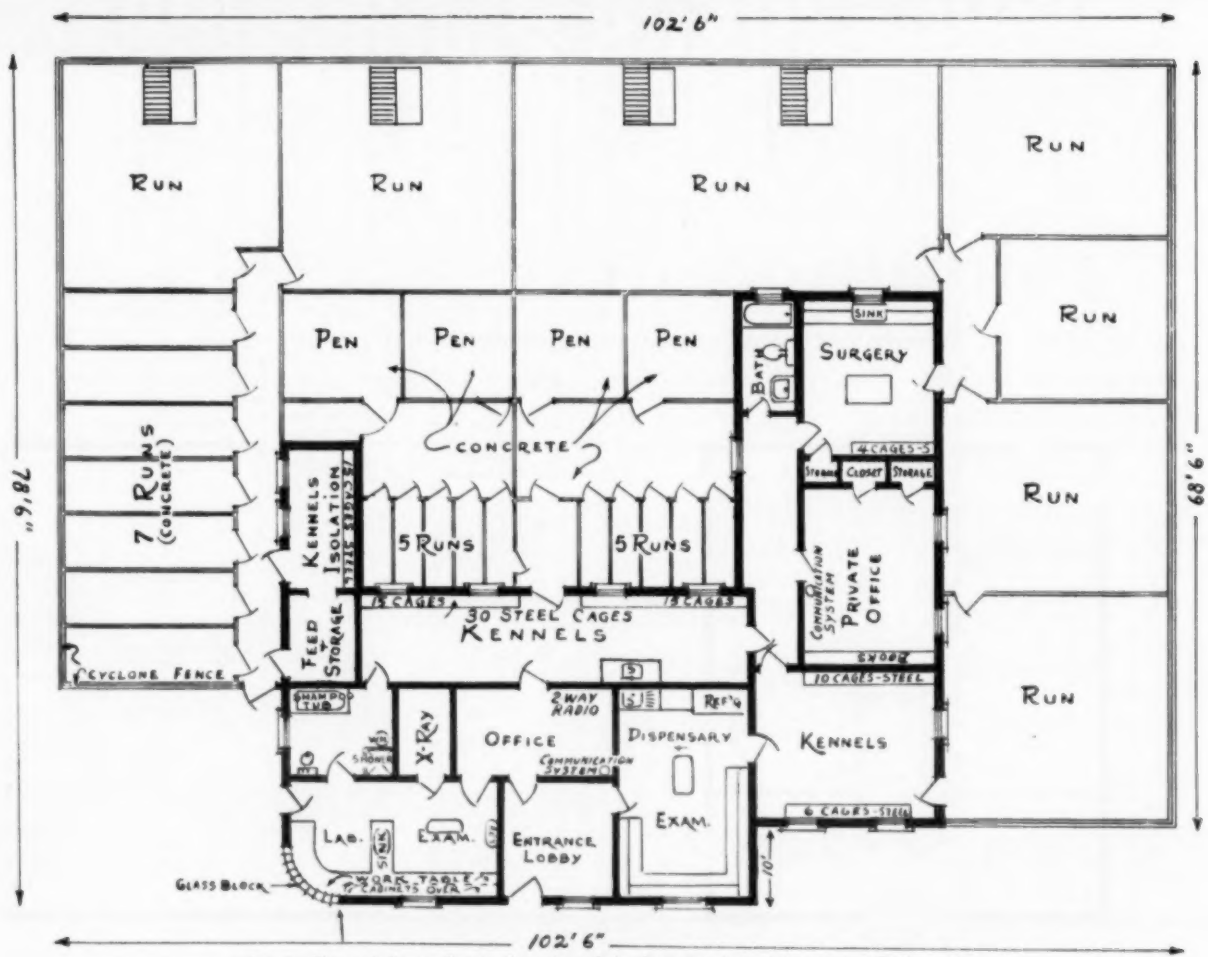

Fig. 7—Plans of the small animal section of the Poitevint Animal Hospital at Dothan, Ala.

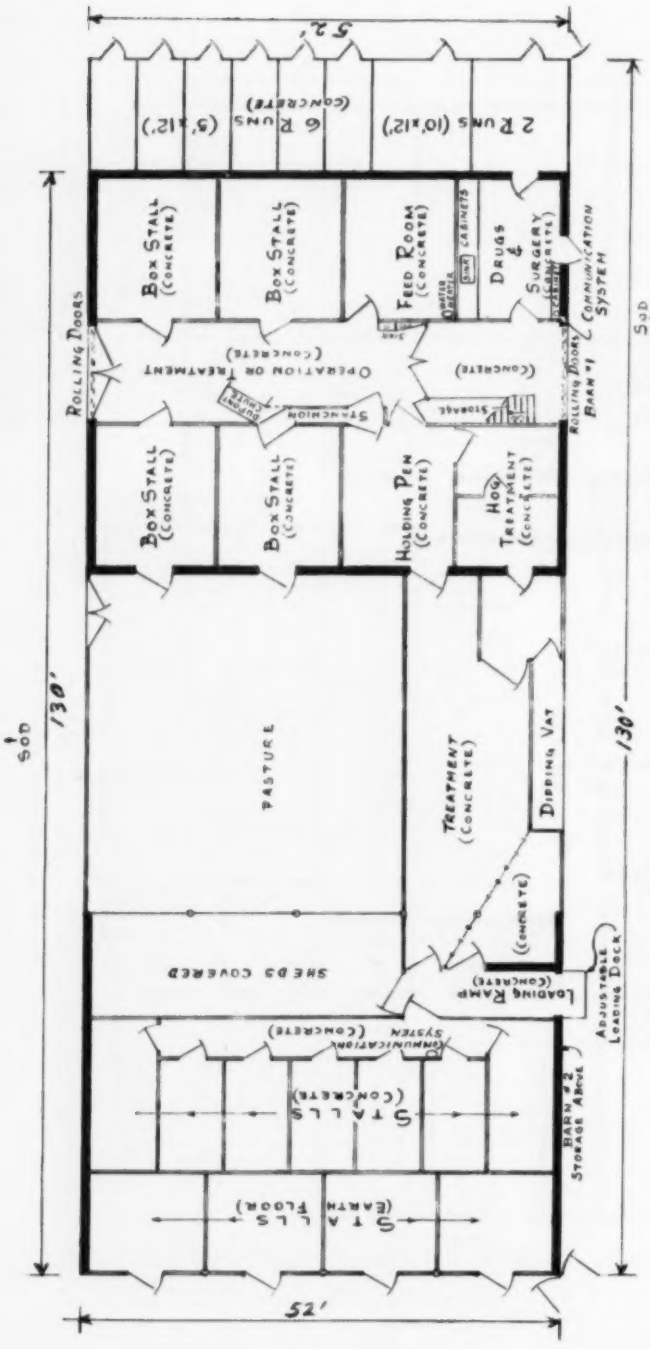

Fig. 8—Plans of the large animal section of the Poitevint Animal Hospital at Dothan, Ala.

at the farm. Also a greater number of clients can be served and there are many other advantages too numerous to name here. The floors that are concrete are dented and of a rough texture to prevent slipping. All floors are sloped to facilitate drainage.

Our large animal hospital is built 300 ft. from our small animal hospital, which is advantageous. An intracommunication system helps to facilitate the operation of our hospital.

We have a two-way radio system which includes the office set and two properly equipped cars. This system helps us in many ways to keep up with our office work and our work in the country.

A portable DuPont cattle chute is serving a good purpose in our practice, and a power sprayer is also found to be valuable.

Out staff includes two full-time attendants, one boy who comes in after school hours and on weekends, Dr. A. D. Dillard, my wife, and myself. We make it a practice to have one doctor at the office at all times during the day, if possible, to take care of patients brought to the hospital and to treat those which are hospitalized. The other doctor takes care of outside calls.

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WING Q. CHIN

Davis, California

The conditions of men eminent for virtue are exceedingly hard and miserable; because their errors, though ever so small, are not overlooked. But as in a clear diamond, every little grain, or speck, strikes the eye disagreeably, though it would not be observed in a duller stone.—*Francis Bacon.*

I) Introduction

The United States Government Agricultural Bureau* recently announced an experimental project which succeeded in producing "superbees." It seems that these superbees could produce a hitherto unknown high grade of honey. However, they also were able to sting four times more fiercely. In fact, the sting became so formidable that the experiments had to be cancelled. As with animals and insects, human beings too face the prospects of producing greater "stingers" as their enterprises expand. The American veterinary medical profession is presently in such a position with respect to its public relations problem. The veterinarian has come to assume his proper membership in the family of professions. Public opinion, however, has not kept pace with the rapid advances in the professional skill and development of our profession. Unethical practices by a small minority within the profession and on the part of various supply firms tend to undermine the profession and provide a big "stinger" for the animals and the people whom we serve. There is a gap between knowledge or scientific progress and its practical application and appropriation by the general public. In the social realm this is known as the "cultural lag." The veterinary profession is in danger of perpetuating and expanding such a lag between its own profession and the general public. If this occurs, there develops misinformation and misunderstanding of the role, importance, and usefulness of the veterinarian. He is looked upon as a mere middleman, or a glorified horse doctor, or an elevated stable-boy.

How are we to bridge the gap between what the veterinarian is and what the general public thinks of him? How can we convey the fact that the veterinarian is a highly trained specialist who possesses the skills of diagnosis, treatment, and surgery, and who merits the dignity and acknowledged status of a learned profession? How can we convey the spirit (if not the letter) of one of Will Rogers' quips that, "Personally, I have always felt that the best doctor in the world is the Veterinarian. He can't ask his patients what is the matter—he's got to just know"! How can we develop a relationship of faith and trust and confidence on the part of the general public, among whom are our potential clients?

I am convinced of the dire need of a program of education. American democracy has always rested on the presumption of an informed and enlightened public opinion. An organization or a profession that is working for the public good is injuring its own cause as well as that of the public when it seeks to hide its light under a bushel. It behooves the veterinary profession, therefore, to present the facts to the American public! Education of the general public means *a sound program of public relations.* What, then, is the nature of public relations?

II) Nature of Public Relations

In the fast-moving, complex, highly organized, and mechanized society in which we live today, specialization inevitably produces a large gap between the veterinary profession and the general public. Public relations seeks to minimize this gap by providing the proper channels for mutual understanding. Public relations thus serves in the similar strategic capacity as the liaison officer in the armed services who communicates and mediates for two allied armies. Without such an officer, coördination of plans and forces is impossible.

Public Relations as a Point of View.—Public relations is not mere publicity. In fact, "publicity" has a connotation which frequently is not

Wing Q. Chin

Dr. (CAL '53) Chin's essay, published herewith, won first prize in the $3,000 cash prize contest for seniors in U.S. colleges of veterinary medicine. The contest was sponsored by the Associated Serum Producers on the subject, "Veterinary Public Relations."

*Presumably the United States Department of Agriculture.—Ed.

conducive to the breeding of trust and confidence. Publicity is only one tool in the whole program of relationships with those whom we wish to serve. Someone has defined public relations as the "practice of doing the right thing in the right way at the right time and place, and then explaining it in the right words and images to the right people!"

In a larger sense, public relations is a point of view, a matter of policy, which guides an individual or a profession along a path which will earn and hold the favorable following and opinion of the public. Hence, public relations will be successful to the degree that the policy is sound and for the public interest or welfare. Sound policies are essential to coördination and public acceptance. It is an error to presume that changing public attitudes is a matter merely of repeating some "line" of information over and over again. If public relations is to be established on a firm and abiding foundation, it must ultimately rest on a sound policy that serves the public interest and demands.

Social psychologists inform us that mass publicity is relatively ineffective in normal times. Mass public publicity campaigns are effective insofar as they may reinforce and strengthen beliefs and attitudes of those who already hold a similar viewpoint. Mass public publicity carried out properly, however, is also effective and may result in shifts of public opinion on the part of those so-called "marginal" people who have not formulated a definite point of view. Hence in the use of publicity, it is important to recognize the levels or the degrees of antipathy and sympathy toward a desired point of view.

In a sense, therefore, the general public (including animal owners) consists of three broad groupings. There are those who are in favor of a policy, largely because they see its soundness and its value. There are those who are against the policy, largely because they consider it irrelevant to their personal needs and interests, or because they have a misconception of it. And finally, there is the great bulk of people who are unconcerned and have no conscious opinion in either direction. It is this latter group that is potentially important; for it constitutes the majority, and it is likely to be swayed to one viewpoint or another in a critical moment. A critical moment may either be positive or negative. For example, a timely story in the press indicating a heroic deed on the part of an American soldier in battle tends to elicit the general opinion that American soldiers are valiant, brave, and courageous. On the other hand, news that recently circulated around the world concerning the murder of a Korean Christian minister and Presbyterian leader by a drunken American soldier points to the direction that all American soldiers are drunkards and murderers.

Different tactics and techniques must therefore be recognized and utilized in dealing with the three groups. For the first group, activities and services must be offered which tend to confirm, kindle, and perpetuate the favorable attitudes already held toward the profession. For the second group, efforts should be made to minimize antagonism and misunderstanding, and to demonstrate to these people the value and important contributions continually being made by veterinarians in research, diagnoses, and human as well as animal health. The problem is also that of relating veterinary work and services to their personal need and interest and profit. The alteration of opinion in this area is difficult, but not altogether impossible. For the third group, the most effective technique appears to be the genuine and sincere work which produces consistent positive values over a long period of time.

b) Public Relations as Communication.—Another general principle of public relations is that of communication. If public relations as a point of view—established on honesty, merit, and good will—is developed, then there remains the problem of communication or interpretation of the policy. Wherever there is a relationship between two or more persons, there is present the process of communication from one mind or from one heart to another. Communication takes place not merely by the word, either verbal or written. Communication also takes place by action and example. Feelings and attitudes of confidence and courage may thus be communicated. Much communication goes on by imitation. You see a way of doing things and you try it out. Hence action, situations, and behavior communicate to others often more effectively than words. In a very important sense, therefore, every individual veterinarian is a public relations medium.

More commonly, however, communication is thought of in terms of the various mediums. Such channels of communication include the newspaper, newsletter, farm journals and periodicals, radio, television, movies, comic books, cartoons, speeches, meetings, club affiliations, signs and billboards, direct mail, direct visitations, and exhibits, institutes, or traning programs. The specific means of communication are employed according to the needs of the immediate situation and the financial and personal resources available.

Another important function of the communication process in public relations is the correction of misinterpretations, misrepresentations, or misunderstandings toward the profession. Usually a simple presentation of the facts is sufficient to counter misconceptions that cast erroneous and undesirable reflection upon the profession.

c) Public Relations as Long-Term Policy.—Public relations is not an isolated and extracurricular activity that can be appropriately pigeonholed to some committee which could, at its convenience, work out a public relations program and exploit the various mediums of communication. A sound public relations program involves every individual member of the profession, and involves constant reëxamination of aims and goals. In short, it is a continuous and long-term project. Like any important profession, ours has grown

through a continuous process of increased skills and knowledge over a considerable period of time. Public relations, too, takes time and must be nurtured. The present moment must be related to future consequences as well as future plans. A long-term perspective is as advantageous to our profession as are the plans and blueprints of the carpenter before he starts to construct the house. Such a perspective helps to establish a balanced program of public relations. Too much public relations publicity at one particular time may result in diminishing returns. Often the publicity of our profession is concentrated during convention time, while periods between conventions receive little or no attention, especially at the local level. Good material must continually flow through to the mediums of communication on a systematic, long-range basis.

Joseph W. Hicks in the book, "Your Public Relations," by Griswold, suggests an outline for defining objectives that might be adapted for our present purposes. The following three questions must be answered prior to public relations work:

1) What does the profession want the public to know about it—its activities, its services, its successes?
2) In what news about them is the public going to be interested?
3) How can public relations and publicity serve both most effectively?

A study of the types of people that the profession desires to reach and an evaluation of the most effective means of communication is essential to long-range planning. If the veterinary profession is to gain continual stature in the minds of the general public, it must keep in mind that public relations is a continual and growing and consistent endeavor.

III) METHODS OF PUBLIC RELATIONS

In communicating a point of view there are two primary means through which desirable attitudes may be formed and maintained. The first and most important means rests on the responsibility of the *individual* practicing veterinarian. The second major means of public relations is through *organizational* channels, such as those created and maintained by the Associated Serum Producers and the American Veterinary Medical Association and its affiliated regional and district branches.

a) The Individual Practitioner.—In the final analysis, the most meaningful public relations is personal relations—the relationship of one person to the immediate person or situation at hand. For the reputation of the profession is made or broken by the individual veterinarian. No amount of advertisement and publicity can replace the warm, friendly, personal regard of one individual for another. After everything is said, read, and preached, it is the personal embodiment of the ideal that really matters and has deep influence. Words—no matter how vividly and strikingly they may titillate the nerve-endings, no matter how pleasant they may sound—are not enough in public relations procedures. The word "public" itself is somewhat ambiguous and perhaps misleading. For the public is not an entity in and of itself; but it consists of persons. Hence the label "John Q. Public" testifies to the basic individuality of the public. Therefore, the practitioner who wants to develop "good" public relations must start at the level of personality. He must have a genuine and sympathetic concern for persons—their interests, needs, likes, and dislikes. This interest in the needs of persons should not be confined solely to his relationship with clients, but should permeate his whole life. This is a spontaneous reaction, and no amount of education and technical skills that can be packed into the skull can inculcate or replace this human art of personal relations. And yet, it is the most effective public relations!

To be sure, it involves giving excellent and courteous service, keeping high standards of cleanliness, being active in community and civic affairs, and being above reproach in personal and professional mannerisms and ethics. Above all, it means that the practitioner is to be cautious and careful in his diagnoses. He should not be lazy and accept as final the judgment of his client and then administer treatment based on such suggestions. By handling each case and each client individually and personally, by explaining in a simple manner (not talking "over" or "down" to a client) the nature of the malady, and by exercising his special diagnostic training, the veterinarian will gain esteem and perform a higher quality of service.

How can the individual veterinarian hope to practice such an intangible and elusive art as personal human relations? Is it even realistic in the business world, where getting ahead may mean making someone else get behind? What about the enormous amount of time consumed in establishing such an understanding relationship with people?

These are serious questions which every individual veterinarian must answer for himself. As for me, it is bound up with my meaning or philosophy of life. One of the more important decisions of life which a man must ultimately make is his choice of vocations. For it is within his chosen vocation that a man spends a major part of his adult life. If he enters his vocation for the sole purpose of making money, the chances are he will find disillusionment, despite the fact that he may or may not make money. However, if he seeks to perform his vocation with the realization that he can be of service, that his abilities can be creatively utilized in an important area of life, or that by the performance of his job he is meeting a vital need, it is my firm conviction that the practitioner will have little or no difficulty in practicing the fine art of personal relations; and that the fruits of such personal relationships will yield a rich harvest in the field of public relations.

b) Public Relations Through Organizations.—The second major avenue for the cultivation of

public relations may be achieved through organizations and associations which are working for the welfare of the profession. We know that an individual is not entirely sufficient unto himself, and that he can gain strength, guidance, and assistance through alliance with larger organizations. The chief merits of these organizations are that they are able to communicate with larger bodies of people, that they have facilities which enable greater access to various mediums of communication, and that they create a bond of fellowship and unity among members of the profession. A large organization is equipped with personnel and financial resources that enable contact with a multitude of people. And it is rather obvious that people who are not reached will not be affected. However, there is often an implicit fallacy that attributes magical powers to large-scale organizational public relations efforts. Professor Angus Campbell, director of the Survey Research Center at the University of Michigan, cites a pessimistic experience of large-scale public relations endeavor as follows:

> During the war we were called upon by the Treasury Department to assess the effectiveness of a magazine intended to stimulate purchase of war bonds. The Treasury had printed and distributed to some 25,000,000 homes two issues of this little news-magazine which they called *Our America*. Several additional issues were planned but before the third was printed, it occurred to someone to find out which parts of the magazine were being read, which pictures made an impression, which parts the people liked or disliked. In order to provide answers to these questions, we visited some 650 households in Baltimore, carefully selected to represent the entire city. According to local postal officials, all these people had received *Our America* in their mailboxes. The results were as follows: When shown a copy, 83% of these people said they had never seen it before. Of those who said they had received it, one-third said they had not read it. Of those who had received the magazine and read something in it, almost two-thirds could not remember what it was about. The third issue never came off the press!

The point to be made is that volume is not synonymous with effectiveness. Unless a person's needs are being met and the disseminated information somehow intimately involves the individual personally, there is little hope that large scale efforts *per se* will be effective.

Nevertheless, large scale organizational efforts perform a unique service in elevating the status of the profession as a whole. In the veterinary medical profession, organizations such as the American Foundation for Animal Health and the American Veterinary Medical Association are especially necessary in view of ethical codes which restrict advertisement and limit access to the public—particularly where the name of any individual practitioner is mentioned. Organizations whose purpose it is to serve and promote the veterinary profession have accomplished a most necessary job, which, undoubtedly, has aided considerably in the rapid and continual acknowledgment of our profession on the part of animal owners and the general public. It therefore behooves the individual veterinarian, both as a student and as a practitioner, to be well acquainted with the efforts of his veterinary organizations which are seeking to serve his interests in the area of public relations. To these organizations he owes a considerable debt for their efforts in elevating the profession from the dark days of the "horse doctor-stable boy" era to the new thresholds of victory and enlightenment into which we are being ushered.

What then are the main characteristics of the programs of the Associated Serum Producers and the American Veterinary Medical Association? To a consideration of this question we shall now devote our attention.

IV) THE PROGRAM OF THE ASSOCIATED SERUM PRODUCERS

The Associated Serum Producers comprises 17 member companies which serve veterinarians exclusively. These allied companies sponsor the American Foundation for Animal Health, whose educational committee, consisting of eight veterinarians from the member companies, supervise the public relations program. The program is broadly directed at two general areas of outreach: (1) the animal owners, and (2) the general public.

At the outset, the primary objective of the public relations program was to educate animal owners regarding the disease hazards which confront animals and the dangers involved in lay vaccination, plus the value of having such work done by trained and professional skill, represented by the veterinarian. Since its inception in 1932, however, the program has expanded and has become a nation-wide, long range, year-'round campaign. Correspondingly, its objectives have broadened to include the following services:

1) Acquainting the public with work of the veterinary profession as a whole.

2) Making animal owners conscious of disease problems, and the advantage of using the services of the veterinarian.

3) Pointing out the dangers of amateur diagnosis and the hazards of "dosing" with patent medicines and home treatments.

4) Reporting on new veterinary research and new advances in veterinary science.

5) Showing the contributions the veterinary profession makes to public health, and to the welfare of the community, state, and nation.

6) Enhancing the standards of the individual veterinarian with his clients and with the general public.

In addition, the Associated Serum Producers sponsors research programs for the advancement of animal health knowledge, such as the long term grant-in-aid to the Veterinary Research Institute

of Iowa State College for the purpose of research on problems related to hog cholera virus.

The four mediums of communication which the American Foundation for Animal Health utilizes to accomplish its public relations objectives are as follows: (1) newspapers, (2) radio, (3) farm magazines, and (4) motion pictures.

Press releases are issued systematically to daily and weekly newspapers and to rural newspapers throughout the country. Twice a month 1,100 dailies and 2,000 weeklies receive news dispatches which cover a wide range of subjects such as rabies, milk fever, enterotoxemia, distemper, hog cholera, erysipelas, and many others. Approximately 1,800 rural newspapers, on the basis of 24 columns per year, carry practical information regarding animal diseases, animal care, and precautionary measures. These columns appear in question and answer form and are frequently used as feature or as editorial material in rural newspapers. Because of their usefulness, these dispatches are very popular among farm and dairy folks, who are also made more conscious of the service and help that can be rendered by the veterinarian.

Another chief means of communication conducted by the American Foundation for Animal Health is by means of radio. Brief news items to radio farm broadcasters throughout the nation and paid programs over leading stations are arranged.

There are usually ten news items per month that are submitted to over 400 radio stations coast-to-coast. These radio dispatches deal with livestock disease problems and are well received by broadcasters and listeners as well. The paid broadcasts in hog-producing states are for the purposes of warning the animal owners of the dangers of hog cholera and pointing out the importance of vaccination done by a veterinarian.

A third important means of public relations is carried on through the farm magazines. Three types of publicity are carried on in the farm periodicals and magazines. These consist of (1) news releases similar to those issued to newspapers on animal disease problems; (2) educational advertisements indicating the importance of the veterinarian's service to the farmer's profits and animal health; and (3) special educational advertisements during the spring and fall indicating the danger of hog cholera losses and the dependability of the veterinarian in offering preventive and protective services. Some of the farm publications in which educational advertisements are conducted are the following: *Country Gentleman, Hoard's Dairyman, Successful Farming, Southern Agriculturist, Dakota Farmer, Wisconsin Agriculturist, Drovers Telegram, Drovers Journal, Journal Stockman, Wallaces' Farmer, The Farmer,* and *Prairie Farmer.* Studies and surveys have given convincing evidence that farm magazine advertisements conducted by Associated Serum Producers attract high reader interest and attention. An independent research organization, Readex, conducted a survey among readers of *The Farmer.* It was revealed that the Associated Serum Producers' advertisement, entitled "When a Cow Goes Down," won a readership score of 356—the highest total score among both men and women readers of any advertisement in its classification. It also had three times as many readers as the average for its classification. Continued educational advertisements covering such subjects as shipping fever, anaplasmosis, and swine erysipelas have also had excellent results.

The fourth major area of public education is the motion pictures. This medium is important as a means of reaching a wide public and can be especially helpful to the veterinarian who deals with smaller animals and pet owners. Motion pictures also supply a good source of entertainment for clubs, civic groups, schools, and youth and adult organizations. The Associated Serum Producers has sponsored and produced a successful film, "Valiant Years." This picture has been shown to over a million persons and may be obtained free of charge for showing to local groups on request to the Associated Serum Producers by any veterinarian. The half-hour picture tells the story of the activities and contributions of the veterinarian to the welfare of the local community, and may be appropriately supplemented by personal experience and testimony on the part of a veterinarian who is addressing an audience.

V) THE PROGRAM OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION

The American Veterinary Medical Association is a national organization of veterinarians, with headquarters in Chicago. As the official spokesman for the veterinary profession, one of the important responsibilities assumed by the AVMA is that of public relations. To this end, the AVMA maintains a Public Relations Department and employs a public relations counsel to supervise the national program, as well as a staff to execute the details of the program. Broadly conceived, the function of the Public Relations Department is to communicate policy and material to the public which will cast favorable light upon the profession. It performs this function through a nation-wide, long-range, year-round program to reach the general public and the animal owners; it also contacts and works coöperatively with various groups and organizations whose interests are in the same or allied areas, such as livestock associations, kennel clubs, feed associations, farm coöperatives, county agents, college agricultural programs and extension departments, pet owners, 4-H clubs, etc.

The AVMA also sponsors the Humane Act Award which offers a prize and citations of merit to any boy or girl not over 18 years old living in North America.* This award encourages kind-

*Any North American boy or girl over 18 years old may be nominated for the AVMA Humane Act Award for an outstanding act of kindness to animals. The Committee awards a first prize and up to six honorable mentions.—Ed.

ness to animals, or bravery in the rescue or defense of animals and gives special recognition to youth.

Another area in which public relations is manifested is that of publications which are addressed primarily to members of the veterinary profession. The AVMA sponsors two journals with which veterinarians should be familiar. These publications are the JOURNAL of the American Veterinary Medical Association, and the *American Journal of Veterinary Research*. However, more directly related to the area of public relations is the very helpful pamphlet published by the AVMA's Committee on Public Relations "for the guidance of graduating members of Student Chapters." This pamphlet, entitled "Forewords to Successful Practice," gives practical suggestions on such subjects as "selecting a location for practice," "getting acquainted with the community," "the practitioner's wife," professional conduct, personal mannerisms and ethics, and public relations guidance. Such information is very helpful for the neophyte veterinarian and tends to make him "public relations conscious."

a) Methods of Reaching the Public.—The national campaign of the AVMA is carried out primarily via the medium of newspapers, radio, and farm magazines. General services are also offered by the public relations counsel and his staff in maintaining public relations services during conventions of the Association, and in correcting misconceptions and misinterpretations by the "vigilance" service.

The Public Relations Department issues weekly news releases to the major news bureaus (Associated Press, United Press, and International News), and to other national news sources. An informative clipsheet** is mailed each month to approximately 5,000 weekly newspapers. These clipsheets contain timely topics of interest to animal owners, inform the public on veterinary medicine, and illustrate the services of the veterinarian in coping with animal diseases and public health matters.

The Public Relations Department also sponsors radio programs, preparing radio scripts in question-and-answer form for the use of state veterinary associations, who in turn, provide members who help to broadcast the programs. Four programs a month are usually made available for such use. Approximately 250† news items yearly are sent to radio stations informing the public and animal owners of the values of veterinary service.

Another important public relations service is the full coverage of the AVMA convention, bringing the results of committee reports, conference papers, and highlights of the convention to the public via various mediums of communication including radio and television broadcasts from the convention center.

Not to be minimized is the important service of "vigilance" performed by the Public Relations Department. This includes correcting misinterpretations or misrepresentations of the veterinary profession in any of the organs of communication. For the establishement and stability of long range public relations objectives, this type of service is essential.

b) Public Relations by State and Regional Veterinary Association.—In view of the well-planned public relations programs that are conducted by the Associated Serum Producers through the American Foundation for Animal Health and the American Veterinary Medical Association through its Public Relations Department, one is led to wonder whether or not state, regional, and local association activities in the area of public relations are necessary. Upon closer examination, one finds that such local and regional activities are vital and necessary for the coördination of national activities and for the continual development of the veterinary profession. In spite of the fact that the national organizations disseminate material systematically throughout the nation, such data necessarily cover topics of a more general nature and interest. Therefore, it is the responsibility of each locality and regional area to initiate its own public relations activities in order to center more on the special interests and problems of the particular locale.

On the regional and local levels, institutes and panel discussions have been successfully conducted in coöperation with a veterinary college. In California such programs have been sponsored by veterinarians of various counties in coöperation with the University of California extension service. Part of the program usually consists of reports from veterinarians on such subjects as "bovine sterility," "mastitis," "internal parasites of cattle," "calf diseases," "anthrax," and "causes of reproduction failures." The report is usually followed by a question period and panel discussion.

Local regional public relations might also include the organization of a speakers bureau that could provide speakers on request from groups. A local public relations committee could also encourage contacts with other organizations having similar interests, and participate in exhibits, county fairs, and shows.

However, we have previously stated the dictum that public relations is personal relations. Ultimately, public relations policies are reflected and implemented by the individual veterinarian in his daily practice. Hence public relations practice must permeate the entire organizational structure from the national organizations to the regional and local branches and, finally, in the affairs of the practitioner's daily routines, and in his relationships to persons, clients, and farm organizations.

**The AVMA Press Service.—Ed.

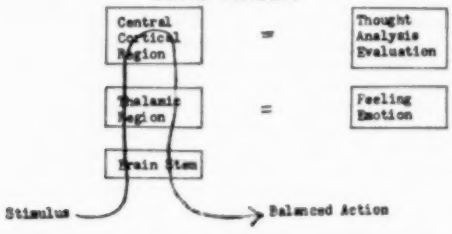
†Farm radio briefs consisting of ten news items are sent twice a month to approximately 300 radio stations. Radio scripts, featuring veterinarians on question-and-answer programs, are sent to over 60 local and state associations each week, for broadcasting over local stations. —Ed.

Furthermore, since many practicing veterinarians are not public relations conscious, it is desirable to form regional committees and, if possible, employ a trained public relations counsel to handle details of the public relations program at the regional level. In the event that professional public relations counsel is either unavailable or unobtainable because of inadequate financial resources, such work might be carried on by a committee on the regional or local level, in coöperation with the national* Public Relations Department. Such a local committee need not consist solely of veterinarians; in fact, it would be advantageous to have members of other professions or leading citizens of the community serve as advisors or consultants on the local public relations committee. This would foster interprofessional relationships and understanding, and give to the committee a more adequate cross section of opinion and perspective in the operation of public relations on the local level. Such professional help or committee activity, however, should not make the individual veterinarian feel less responsible in performing the task of public relations in his vocation. Such work will coördinate and supplement his own endeavors as well as those of the Associated Serum Producers and the American Veterinary Medical Association.

VII) PUBLIC RELATIONS AND SUBVERSIVE INFLUENCES

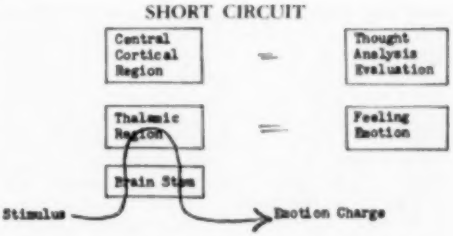
We have already referred to the fact that advances in veterinary medicine also create "big stingers" which threaten to undermine the contributions of trained veterinarians. The veterinary profession is vulnerable to subversive measures which threaten to "short circuit" the value and services of veterinarians. Now "short circuit" is not merely a vivid metaphor, but is an actual process which takes place in the human mind. Let us therefore examine briefly the nature of "short-circuit" vs. complete or "long circuit" action. The two types of reasoning behavior may be diagrammed as follows:

LONG CIRCUIT



In the complete or long-circuit process the stimulus enters the brain stem, goes through the thalamic region of feeling and emotion and then around the central cortical region and back through the thalamic region to the brain stem, where it issues out into positive and balanced action.

SHORT CIRCUIT



By way of contrast, in the short-circuit reaction, the stimulus does not reach the cortical region, and hence the person is governed by emotion and feeling rather than reason, analysis, and discrimination. The final outcome is an emotional charge or an ineffectual fizzle. Groups or professions that are "short circuited" are hence loaded with emotion and antagonism and tend to be overly defensive in itself and perhaps offensive to the general public. For a short-circuited individual can not think through his problem with reasonable objectivity. Hence, it is important to keep in mind that veterinary public relations should not be conducted on a short-circuited basis and should not succumb to short-circuited methods.

For the veterinary profession, this analysis suggests that it is neither necessary nor desirable to quarrel with drug houses who are dispensing drugs to the farmer directly. For such polemics often aid companies by giving them free advertisement. By running them down in an emotional vein, the animal-owning public may come to suspect that there is some good in them, or else why should they be attacked so vehemently? Also, such condemnation of companies might be taken as a rebuke to the animal owners' judgment.

What type of strategy is therefore appropriate for meeting this threat? It seems that a positive program might serve the purpose. Such a program would perhaps include a scientific and thorough study of the effects of lay medication. A study which revealed the hazardous consequences of the false notion "every man his own veterinarian" would compellingly bring the problem to the attention of animal owners and the general public. A scientific study to determine the value of veterinary service might also be revealing. Then the facts can speak for themselves.

At present, there is a small number of allegedly trained veterinarians whose methods and skills are similar to those of the untrained animal owner. This small group within the profession provides another "big stinger" and supplies abundant propaganda for the grist mills of those forces which work to undermine the profession. A recent article entitled "Is Your Veterinarian Reliable," written by Donald Robinson and appearing in *Today's Woman*, illustrates seven cases of dishonest and unethical practices conducted by veterinarians, largely in small animal practice. Though seven practitioners constitute a small percentage, they nevertheless leave a public impression vastly out of proportion to their number. A research study can

*AVMA Public Relations Department.—Ed.

determine the number of such ill-suited individuals and clarify a situation which our adversaries exploit. This is sound medically as well as good public relations, for the animal owners desire fair-play; and they are anxious to obtain the best service available as revealed by concrete facts and data. It is often said that the best defense is a good offense. A good offense can be supplied by a progressively higher professional standard and quality of workmanship.

It might also be wise public relations to seek ways in which a competitor may be won over. If a thorough investigation reveals that certain tested areas may be conveniently handled by lay treatment, it might be advisable for the veterinarian not to antagonize lay sales agencies in order to promote coöperation and understanding. As a result, such agencies would be more likely to refer customers to the veterinarian for consultation in matters they do not fully comprehend.

The threat to the profession by those supply firms which sell biological and pharmaceutical products through lay channels might also be met by legislative action which seeks to serve the public interest. Veterinarians must be alert to potential legislation which may be either positive or negative, and they must take appropriate action. An example of negative legislation which was spotted and deterred by a group of veterinarians were Assembly Bill 2122 and Senate Bill 1251 before the California legislature. These bills concerned lay vaccination in the state brucellosis program. Immediate and positive steps taken by the state association, in coöperation with practicing and research veterinarians and veterinary educators, were successful in informing the legislature so that the bill was relegated and died in committee. However, positive legislation might also be introduced which would limit the sale of unprescribed drugs which might be detrimental to animal and human health if improperly utilized. For example, unskilled use of antibiotics has developed resistant strains of organisms which are not only difficult for the veterinarian to combat, but which are also a potential hazard to man. Antibiotics entering the milk supply, through lay medication of mastitis with antibiotics, may become a serious problem to public health, sensitizing the human population to such antibiotics or producing in the human population a condition which would render antibiotic therapy less effectual. Sulfonamides are distinctly dangerous in the hands of the layman, for indiscriminate use will produce a serious kidney damage. Moreover, live viruses have on many occasions been known to cause widespread epidemics instead of acting as efficient immunity producers as was intended by the manufacturers and untrained dispensers of these biologicals. It would therefore seem that legislative action to curtail the indiscriminate sale and use of drugs is appropriate.

The trend toward hospital treatment may also aid in the professionalization of standards and differentiate the trained veterinarian from those supply manufacturers whose primary interest is in selling their product in abundant quantity. There are now well over 1,000 hospitals in this country specializing in the care of small animals and over 100 equipped as general hospitals for large animals. Animal care in hospitals tends to add to the professional standards as well as afford better facilities for sick animals who may need surgery, medication, or other care. The animal owners and the public also become impressed by the fact that veterinarians are trained surgeons, capable of performing delicate and complex operations for the preservation of animal health—all of which have direct human health consequences.

All ways (including education, legislation, organization, and association) must be examined and utilized to show that the services of the trained veterinarian are not only a good investment but also an indispensable part of animal nurture and health.

VIII) SUGGESTIONS FOR THE IMPROVEMENT OF PUBLIC RELATIONS

Public relations is like building a bridge—building a bridge over the gap that divides the veterinary profession from the general public and the particular groups that the veterinarian wishes to serve. Such a bridge of understanding is vital in our highly specialized and multi-organizational society. The communication of sound policy for the public interest and good is an obligation of the veterinary profession if it is to maintain its place alongside the other great professions which serve mankind. The most effective type of public relations is personal relations, and every veterinarian is a public relations medium. For every contact leaves an impression on the mind of another person—an imprint which is potentially positive or negative. However, the work of great national organizations which can effectively use the means of mass communication is indispensable for the fulfillment of a long range, year-round, and systematic program of public education. Such programs have been sponsored by the Associated Serum Producers through its American Foundation for Animal Health and by the American Veterinary Medical Association through its Public Relations Department and its state and regional associations.

These programs are carried out through four primary mediums of communication: newspapers, radio, farm magazines, and motion pictures. Despite rapid advances and a comprehensive program already developed, it appears that veterinary public relations can be improved and extended. Many levels of potential audience and effectiveness are ignored by centering primarily on four mediums of communication. Educators inform us that under ordinary circumstances learning and the appropriation of information is retained according to the following approximate scale:

90 % is retained by doing;
40 % is retained by seeing;
30 % is retained by reading;
10 % is retained by listening.

Since veterinary public relations on the organiza-

tional level are conducted mostly through reading (30%) and listening (10%)—reading the newspaper and farm magazines and listening to the radio—it would seem that there is a greater need to emphasize the doing and the seeing, both of which are vastly more successful mechanisms. With respect to "seeing" (40%), the analysis would suggest that motion pictures are effective. Therefore, motion pictures like "Valiant Years" should be supplemented and expanded. Other more technical disease hazards and veterinary care might be filmed or made into colored slides especially for the animal-owning public. Television also involves seeing and might be a mechanism through which state and regional associations could operate effectively and profitably. Regarding the "doing" (90%), this appears to be one channel which would merit further examination and consideration in view of its high degree of efficacy. Contests among schools and clubs and farm owners foster the doing as well as full use of the "cortical region." It would appear that this category would also include institutes for explanation of animal care and disease detection, visitations to clinics and veterinary hospitals where the modern means of surgery and research can be depicted to animal owners, and periodical conferences where the laity may meet jointly with professional veterinarians. In the area of "reading" (30%), attention should be centered not only on newspaper releases and farm magazines, but also on books which reach the general public and comic books which are appealing to youngsters. Books such as R. J. Dinsmore's "'Hoss' Doctor" impart a healthy respect for the veterinary profession!

One of the important ingredients of an effective public relations program is to determine the reaction of the public to whom public education is being addressed. For public opinion is not static, but dynamic and constantly reacting to different stimuli and being unaffected by others. Hence, those charged with public relations responsibilities should periodically test public opinion and adjust their efforts to changing attitudes. In this respect, it would be wise to conduct a survey of public opinion to learn the effectiveness of the present program of public education and to find out what animal owners think of the present methods and aids given through the press, radio, etc. Such a survey is not advertisement but merely an effort to obtain facts. It would, however, promote good will with the animal owners by indicating that the veterinary profession has a genuine interest and concern for their evaluation of our services. Such a survey would also reveal successes and weaknesses of the present program.

We have repeatedly made reference to the fact that every veterinarian is a public relations medium. Undoubtedly, there are numerous veterinarians who are not public relations conscious. Investigations like the present contest sponsored by the Associated Serum Producers are highly successful in awakening the contestants to the importance and impact of public relations. However, every student should be aware of the significance of public relations. To this end, a public relations course should be an integral part of the training and curriculum of the veterinary student in our colleges. Students of business administration are trained in industrial human relations, and prospective clergymen are trained in ministerial ethics and public relations. A professional human relations program in our schools is therefore highly desirable. Such a program would equip veterinarians with important information and tools of public relations and would acquaint future veterinarians with the value and significance of public relations to our profession.

Another means of training students in our veterinary colleges to the values and significance of public relations is the sponsorship of intern or trainee programs during summer periods whereby students can gain additional knowledge and practical experience. If such assistance can be subsidized and supervised by more experienced veterinarians, it will improve the clinical knowledge of the student and give him the opportunity to establish professional work habits and, perhaps, acquaint the older veterinarian with newer techniques and knowledge.

Veterinarians in their daily practice should continually point to the close relationship between human health and animal health by indicating the many diseases and health problems which are common to both animals and man. Along this line, the present international emergency calls for rethinking of the role and potential services that the veterinarian can offer to the civil defense program in the event of disaster, as well as in times of peace.

Dr. John R. Wells has prophetically pointed to the need of joint collaboration with other medical professions. This would tend to eliminate misunderstandings and indicate the increasingly important role and vital services which veterinarians perform for the health and economic life of our nation.

Finally, the veterinarian should be proud of his job of ministering to God's creatures by eliminating suffering and pain to the end that man's health and economic well-being may be established. For long ago and far away another man set out to cure suffering and pain and alleviate mental anguish. His mission was to bring life and life more abundantly. And once Jesus said to his disciples, "What man of you, if he has one sheep and it falls into a pit on the sabbath, will not lay hold of it and lift it out"?

Acute hemorrhagic enteritis in calves, due to *Cloatridium perfringes*, type C, is apparently what Dr. Frank Schofield of Guelph, Ont., called sudden death in 1947. Like enterotoxemia in lambs, it may follow a gastrointestinal upset which favors growth of the organism.—*L. A. Griner, D.V.M., Fort Collins, Colo.*

SURGERY & OBSTETRICS
AND PROBLEMS OF BREEDING

The Internal Pudendal (Pudic) Nerve Block for Anesthesia of the Penis and Relaxation of the Retractor Penis Muscle

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THIS STUDY was undertaken to attempt the development of a clinical technique which, when applied to bulls, would result in anesthesia of the penis and relaxation of the retractor penis muscle. This would allow the penis to be readily protracted from its sheath for surgical manipulation. At present, epidural anesthesia is widely used for this purpose. The limitations of epidural anesthesia lie in the dilemma that, in order to obtain good relaxation of the retractor penis muscle, so much anesthetic solution must be injected that it results in marked locomotory impairment of the pelvic limbs. This is a serious side-effect under field conditions where stocks or chutes to keep the animal on its feet are usually not available, especially since casting a large bull is a difficult and somewhat hazardous undertaking.

Another method for causing relaxation of the retractor penis muscle and anesthesia of the penis has been described by Fatkin and Isaev.[1] They injected procaine solution on the dorsum of the penis at the second bend of the sigmoid flexure and reported relaxation and anesthesia in ten to sixty minutes. The author has been unable to satisfactorily duplicate these results.

The specific need for a satisfactory and easily applied technique was emphasized by the necessity of the veterinary clinic at the University of Minnesota treating under field conditions a relatively large number of bulls for trichomoniasis with a trichomonadicidal agent, a German-developed proprietary compound (bovoflavin salbe).* This preparation must be vigorously massaged into the glans penis and preputial membranes, so it is necessary to have the glans penis anesthetized and be able to withdraw the penis from its sheath.

Such a technique would be useful in performing other surgical procedures which require anesthesia of the penis and relaxation of the retractor penis muscle such as: (1) examination of the glans penis and preputial membranes; (2) surgery involving the glans penis, e.g., removal of neoplasms; (3) catheterization of the urethra or passing a urethral sound; and (4) externalization of the urethra proximal to the sigmoid flexure if urinary calculi are present.

From this study, a technique has been developed which involves perineural injection of the internal pudendal nerve with procaine solution.** This technique has been successful 52 of the 54 times it has been attempted.

The purpose of this report is to: (1) discuss the development of the internal pudendal nerve block technique; (2) describe the technique in detail; (3) present data compiled from observations made on bulls after application of the technique; and (4) point out possible applications of the technique.

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Paper No. 2965, scientific journal series, Minnesota Agricultural Experiment Station, University of Minnesota, St. Paul.

This paper is part of a thesis to be submitted by the author to the faculty of the Graduate School in partial fulfillment of the requirement for a Master of Science Degree.

The author gratefully acknowledges the counsel and help received from Drs. David E. Bartlett and R. L. Kitchell, School of Veterinary Medicine. Appreciation is also expressed to Mrs. M. H. Bartlett for preparing the drawings.

The technique described here will be demonstrated on television by Drs. Larson and D. E. Bartlett at the AVMA Convention (Surgery and Obstetrics) in Toronto.

*Dr. David E. Bartlett, who conducted the treatment series on these bulls, has previously described the method of treatment used as well as the constituents of "bovoflavin salbe" (see Bartlett).[2]

**This technique will be referred to as the internal pudendal nerve block in this paper even though other nerves are involved.

MATERIALS AND METHODS

The anatomical studies, made as part of this experiment, were conducted by dissecting 5 embalmed specimens. Of the 5 specimens used, 3 were mature bulls and 2 were immature animals. The mature specimens included: (1) 2 bulls (weight estimated at 700 lb. each) in which the surgical area had been injected with Janus green dye as described under "Surgical Procedures," and (2) a large Holstein-Friesian bull whose pelvis, with attached musculature, was removed at autopsy and was fixed by immersion in 10 per cent formalin solution. The 2 immature specimens were a male fetus at 8½ to 9 months and a bull calf approximately 3 months old. The pelvic, perineal, and inguinal areas of the above animals were dissected in detail paying particular attention to the distribution of the nerves to those areas. In the 2 bulls in which Janus green dye had been injected, observations were made to note the location and distribution of the dye.

In developing a satisfactory clinical technique for blocking the internal pudendal nerve (dorsal nerve of the penis), four different approaches were attempted. Detailed descriptions of each method may be found in the section entitled "Surgical Procedures." Only a listing of the various techniques attempted will be made here:

1) Three attempts were made to block the internal pudendal nerve at the ischial arch by passing the needles through the crura of the penis.

Fig. 1—Injection technique. Note (1) passage of the needle through a skin cannula in the ischiorectal fossa; (2) the self-filling syringe with the procaine bottle in the pocket; (3) left gloved hand in the rectum.

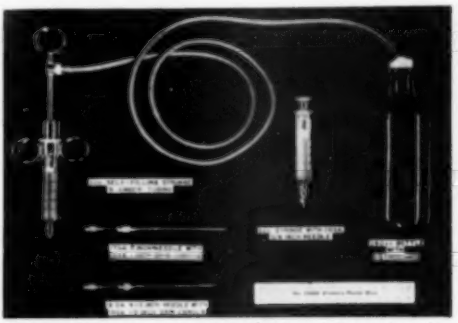


Fig. 2—Instruments found useful in administering the internal pudendal nerve block

2) The method described by Fatkin and Isaev[1] was attempted four times.

3) In 2 bulls, the needles were passed to the internal pudendal nerves from the lateral aspect through the anterior part of the lesser sciatic foramen. The point of the needle was noted by rectal palpation. Janus green dye was injected at each site and found to be diffused into the nerve on dissection.

4) The needle was passed to the internal pudendal nerve by entering the ischiorectal fossa and advancing the needle anteroventrally. The needle and nerve were both palpated *per rectum.*

This last mentioned technique showed promise so it was the one used in the 54 trials on which the evaluation of the technique is based. Detailed protocols were kept on each trial recording: animal size and breed, concentration and amount of anesthetic used per side, whether a spreading factor was used, the degree of relaxation obtained in the retractor penis muscle, the degree of desensitization of the penis, the area of cutaneous desensitization, the time elapsed before desirable results were obtained, the amount of restraint used if the animal was treated for trichomoniasis, and the bull's attitude while being treated.

SURGICAL PROCEDURES

The first attempt to reach the internal pudendal nerve with a needle was made by trying to take advantage of the osseous ischial arch as a landmark. This necessitated passing a needle through the ischiocavernosus muscle and the very tough and fibrous crus of the penis surrounded by this muscle. Three trials were made using this approach, two with a Jersey bull (No. 18) weighing approximately 800 lb. and one with a Holstein-Friesian bull (No. 4) weighing approximately 1,800 lb. Much difficulty was encountered in attempting passage of a needle through the crus of the penis. The animal showed pain even though procaine was injected as the needle was being passed. In no instance was the osseous ischial

arch encountered with the needle point. Injections of 2 per cent procaine were made when the needle point was thought to be in the area where the internal pudendal nerves pass over the ischial arch, but on no occasion was there any evidence of subsequent relaxation of the retractor penis muscle.

Attempts were made to use the technique of Fatkin and Isaev[1] in blocking the dorsal nerve of the penis at the second bend of the sigmoid flexure. The animals used in the four trials using this technique were: No. 4, 10, 11, and 18 (*see* table 1 for description of these animals). In animals 4 and 11, it was possible, by using a rubber tube connecting a 20-gauge, 1-in. needle to a syringe, to inject 50 ml. of 2 per cent procaine solution on each side of the second flexure of the sigmoid. No anesthesia of the penis or relaxation of the retractor penis muscle was noted in either trial. In animals 10 and 18, it was impossible, even with the needle attached to a rubber tube, to reach the second flexure of the sigmoid. These animals were quite fat and the adipose tissue in the inguinal region effectively removed the sigmoid flexure from accessibility. It was noted in the animals in which injection was possible that, even though the procaine solution was infiltrated at the appropriate site, the bull could easily move the sigmoid flexure out of the area. It was felt that this was the primary reason for failure in the bulls on which this technique was applied.

Since no desirable results were obtained by the above procedures, it was felt that, perhaps, the internal pudendal nerve could be reached by passing a needle through the anterior part of the lesser sciatic foramen (fig. 3, No. 8). Two bulls, each weighing approximately 700 lb. were used. The site for passing the needle through the skin was determined by rectal palpation of the anterior part of the lesser sciatic foramen (fig. 3, No. 8) and application of lateral pressure at this point, which manifested itself on the surface of the animal. From this point, a needle was passed in a ventromedial direction until its point was palpable in the anterior part of the lesser sciatic foramen. Here 4 ml. of Janus green dye solution was injected. Upon dissection, the dye was found to have penetrated the internal pudendal and other closely associated nerves. The physical act of passing the needle and injecting from the lateral approach with the left hand in the bull's rectum was found to be awkward. This prompted the decision to try inserting the needle in the ischiorectal fossa and passing it in an anteroventral direction (fig. 1) to reach the internal pudendal nerve† (fig. 3). As the number of trials increased, using the procedure of simultaneous rectal palpation of the internal pudendal nerve and the needle as it was passed toward the nerve from the ischiorectal fossa (fig. 1), it became evident that not only were the most consistent positive results obtained, but this technique also was the most easily applied. The instruments used in administering the nerve block are shown in figure 2.

The restraint used in applying the nerve block was: (1) to immobilize the head either by slight pressure applied to the nose ring or by tying the head down with rope halters, and (2) partially immobilize the tail by tying it to the hock or having someone hold it.

The site for inserting the injection needles was the deepest point of the ischiorectal fossa (fig. 1). This fossa is the triangular depression of the skin bounded ventrally by the ischial tuberosity, laterally by the sacrotuberous ligament, and medially by the rectum and tail head (more specifically, the coccygeus muscle. fig. 3, No. 11). In beef animals, there is usually so much fatty tissue present that the skin is evaginated rather than invaginated. To determine the injection site for these animals, the sacrotuberous ligament can be palpated and the site chosen which will allow the needle to pass medial to the sacrotuberous ligament (fig. 3, No. 16).

The nature of the operation necessitates strict adherence to surgical principles. The needles and cannulas, as well as syringes, were always thoroughly washed with a chemical detergent as soon as practicable after use. After rinsing, the needles and cannulas were placed in a 1:800 aqueous solution of a quaternary ammonium compound. The syringes and rubber tubing were always paper-wrapped and autoclaved before using again. The 2 per cent procaine solution was prepared fresh and autoclaved before use. The ischiorectal fossa of each side and the tailhead were thoroughly scrubbed with tincture of green soap and water, using a brush. The puncture sites (fig. 1) were shaved by sliding the skin laterally until the area was directly over the sacrotuberous ligament. The ligament in this way provided a firm background over which the skin could be stretched and shaved with ease. Seventy per cent alcohol on sterile gauze pads was used to further cleanse the ischiorectal fossae. Tincture of iodine was used as a skin antiseptic.

To obtain dermal anesthesia for the insertion of the skin cannulas, 2 per cent procaine solution was injected intradermally at the chosen puncture sites using a 5-ml. Luer-Lok glass syringe and a 26-gauge, ¾-in. needle (fig. 2). This could be done with little reaction from the bull if slight pressure was applied to the plunger of the syringe so that a small amount of procaine solution was present at the needle's point as the skin was being entered. Enough procaine was injected to produce a wheal about 1 cm. in diameter.

To aid in maintaining the sterility of the injection needles 15-gauge, ½-in. needles (fig. 2) were inserted through the skin at the site of dermal anesthesia to serve as cannulas for the 18-gauge needles.

The next step was to pass the 18-gauge, 4½-in. needle to the right internal pudendal nerve. Figure 1 shows the beginning of this step. Note that the syringe used was a self-filling type (fig. 2),

†In a preliminary study, Turbes[2] used this penetration site without rectal palpation of the internal pudendal nerve or the needle and obtained variable results.

TABLE I—The Evaluation of 51 Trials of the Internal Pudendal Nerve Block in 17 Bulls

Trial No.	Date	Animal No.	Breed	Estimated weight cwt.	2% procaine per side ml.	Time between inject. & treat. min.	Restraint used during treatment[2]	RESULTS		
								Relaxation of retract. penis muscle	Desensitization of the penis	Treatment accomplished
1[1]	27-Feb-52	1	Jersey	11	35	35	5	++++	++++	Yes
2	11-Mar-52				35	45	5	++++	++++	Yes
3	4-Mar-52	2	Guernsey	11	35	40	5	++++	++++	Yes
4	4-Mar-52	3	Holstein	20	40	75	1	+++	++++	Yes
5	14-May-52	4	Holstein	18	15	60	None[3]	++++	++++	
6	15-May-52	5	Br. Swiss	18	35	60	1.2.3	++++	++++	Yes
7	27-May-52				35	60	1.2.3	+++	+++	Yes
8	15-May-52	6	Br. Swiss	17	35	45	1.2.3	++++	++++	Yes
9	27-May-52				35	45	1.2.3	++++	++++	Yes
10	15-May-52	7	Holstein	18	35	55	1.2.3	++++	++++	Yes
11	27-May-52				35	60	1.2.3	++++	++++	Yes
12	15-May-52	8	Guernsey	14	30	40	1.2.3	++	+++	Yes
13	27-May-52				70[4]		1.2.3	+		No
14	11-Jun-52				55[5]	40	5	++++	++	Yes
15	15-May-52	9	Angus	13	30	50	2	++	+++	Yes
16	27-May-52				30	45	1.2.3	++++	++++	Yes
17	20-May-52	10	Holstein	16	35	45	1	++++	++++	Yes
18	6-Jun-52				35	35	3	+++	+++	Yes
19	23-May-52	11	Shorthorn	13	30	40	None[3]	+++	++?	
20	2-Jun-52				35	45	1.2.3	+++	+++	Yes
21	12-Jun-52				35	35	1.3	++++	++++	Yes
22	26-May-52	12	Holstein	17	35	30	1.4	++++	++++	Yes
23	6-Jun-52				30	30	1.3.4	++++	++++	Yes
24	14-Aug-52				30	35	1.3.4	++++	++++	Yes
25	2-Sep-52				30	40	1.3.4	++++	++++	Yes
26	27-May-52	13	Guernsey	17	80[6]		1.2.3	+++	++	No
27	11-Jun-52				35	40	1.2.3	++++	++++	Yes
28	27-May-52	14	Holstein	17	35	45	1.2.3	+++	+++	Yes
29	11-Jun-52				30	45	1.2.3	+++	+++	Yes
30	16-Jun-52	15	Holstein	21	30	40	1.3	+++	++++	Yes
31	30-Jun-52				35	45	1.2.3	++	+++	Yes
32[7]	25-Jul-52				25	45	1.3.4	+++	+++	Yes
33	12-Aug-52				25	35	1.4	++++	++++	Yes
34	14-Oct-52				35	35	1.2.4	+++	+++	Yes
35	22-Oct-52				30	35	1.2.4	++++	++++	Yes
36	29-Oct-52				30	30	1.2.4	++++	++++	Yes
37	5-Nov-52				35	35	1.2.4	+++	+++	Yes
38	14-Nov-52				30	30	1	++++	++++	Yes
39	19-Nov-52				30	30	1.2.4	++++	++++	Yes
40	16-Jun-52	16	Br. Swiss	17	30	35	1.3	++++	++++	Yes
41	30-Jun-52				30	45	1.3	++++	+++	Yes
42	25-Jul-52				30	35	1.4	++++	++++	Yes
43	12-Aug-52				25	35	1.4	++++	++++	Yes
44	14-Oct-52				25	30	2.4	++++	++++	Yes
45	22-Oct-52				30	30	1.2.4	++++	++++	Yes
46	29-Oct-52				35	30	1.2.4	++++	++++	Yes
47	5-Nov-52				25	35	1.2.4	++++	++++	Yes
48	12-Nov-52				30	30	1.2.4	++++	++++	Yes
49	19-Nov-52				30	30	1.2.4	++++	++++	Yes
50	16-Jun-52	17	Jersey	12	35	40	1	++++	++++	Yes
51	30-Jun-52				30	30	1.2	+++	++	Yes

(1) Two previous attempts at treatment had met with failure, using epidural anesthesia.

(2) 1-Line around bull to confine against wall. 2-One man with knee at bull's flank. 3-One man holding bull ring. 4-Sideline for pelvic limb. 5-Blocks.

(3) Not intended for treatment for trichomoniasis.

(4) Initial dose of 35 cc. procaine repeated at 3 hrs., hence, 70 cc. dose.

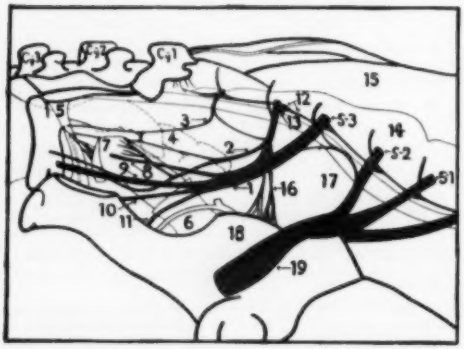
(5) Initial dose of 30 cc. procaine followed by 25 cc. at 3 hrs. Plus 18 cc. epidurally to aid in relaxation of preputial muscles. Success in treatment was result of epidural. Time between injection and treatment was taken from the time after the epidural was completed.

(6) Initial dose of 35 cc. procaine followed by 25 cc. and 20 cc. dose at 3 and 5 hrs. respectively.

(7) Was done by Dr. David E. Bartlett who until that time had not attempted the procedure.

and that the bottle of procaine solution was carried in the pocket. The left gloved hand was inserted into the rectum before the needle was passed. The orientation of the left hand as to the location of the internal pudendal nerve was best accomplished by first palpating for the part of the lesser sciatic foramen which extends anterior to the coccygeus muscle (fig. 3, No. 8). This area gives the impression of a weak spot in the sacrosciatic ligament just dorsal to the anterior part of the lesser sciatic notch. The readily palpable internal pudendal artery also passes through this part of the lesser sciatic foramen (fig. 3, No. 18) and, therefore, is another aid in locating it. Once having the location of the lesser sciatic foramen established, it was always easy to palpate the internal pudendal nerve itself. The left hand was moved anteriorly 2 to 3 inches, using the sciatic spine as a guide (fig. 4, No. 18), and then brought back in a caudodorsal direction applying lateral

Fig. 3—Lateral view of a dissection of a bull's pelvis; all muscles are removed to the level of the sacrosciatic ligament. The relation of the internal pudendal nerve to the sacrosciatic ligament and fascia closing the anterior part of the lesser sciatic foramen is shown. The needle is shown deep to the sacrotuberous and sacrosciatic ligaments.



Key to figure 3—(1) Internal pudendal nerve; (2) middle hemorrhoidal nerve; (3) proximal and (4) distal cutaneous branch of internal pudendal nerve; (5) deep perineal nerve; (6) nerve becomes dorsal nerve of penis; (7) sciatic nerve; (8) actual foramen in anterior part of lesser sciatic foramen; (9) deep fascia of coccygeus muscle extending cranially; (10 and 11) coccygeus muscle; (12) tuber sacrale; (13) sciatic spine; (14) tuber ischii; (15) sacrosciatic ligament; (16) sacrotuberous ligament; (17) external anal sphincter; (18) internal pudendal artery; (19) retractor anus muscle.

pressure with the fingers against the sacrosciatic ligament. The nerve, about the size of an ordinary extension cord, could then be felt to slip over the fingertips. Figure 4, No. 4, shows the dotted outline of the position of the hand in relation to the bony structures while palpating the nerve.

Some procaine solution was injected ahead of the needle as it was advanced in the direction of the located internal pudendal nerve. This tended to anesthetize the path of the needle. By the time one-half of the needle was inserted, its tip was usually palpable through the rectal wall. It then became a simple matter to bring the point of the needle into close proximity to the internal pudendal nerve. An effort was always made to inject most of the procaine solution (20 to 25 ml.) around the nerve somewhat cranial to the lesser sciatic foramen. This was necessary in order to avoid injecting just medial to the fascial sheet (fig. 3, No. 9) which could separate the nerve from the procaine solution were it injected just at the lesser sciatic foramen. This fascial sheet is a cranial extension of the deep fascia on the lateral surface of the coccygeus muscle. The internal pudendal nerve passes lateral to the coccygeus muscle and its deep fascia while the middle hemorrhoidal nerve passes medial to these structures (fig. 4, No. 1, 2). The remainder of the procaine (10 to 15 ml.) was injected somewhat caudal and dorsal to the original injection to attempt to block the middle hemorrhoidal nerve (fig. 3, 4, No. 2) in view of the possibility of the latter carrying some of the sympathetic fibers to the retractor penis muscle. A branch distributed directly to the retractor penis muscle was found consistently originating from the middle hemorrhoidal nerve in all dissections made (fig. 4, No. 2).

With the left hand remaining in the rectum, the same procedure was repeated on the left side. A box or platform 12 to 18 in. high for the operator to stand on was found to be an aid in palpating, in large bulls, the left nerve with the left hand. A second sterile needle was always used on the left side.

In applying the internal pudendal nerve block to the beef type or very fat dairy animal, it was found advantageous to use a 5-in., 17-gauge needle instead of the 4½-in., 18-gauge needle, due to the greater amount of adipose tissue in the ischiorectal fossa. The 17-gauge needle necessitated the use of a 12-gauge skin cannula (fig. 2).

RESULTS

The evaluation of the results of the internal pudendal nerve block is based on 54 clinical trials on 20 different bulls. The results of 51 of the trials are tabulated in table 1. The results of the other three trials will be reported separately because they do not logically fall into the same grouping. All but two of the trials listed in the table were to receive an application of "bovoflavin salbe" on the glans penis and preputial membranes as described by Bartlett,[2] as a treatment for trichomoniasis.

Of the 51 trials shown in the table the breed distribution was as follows: Holstein-Friesian, 22; Brown Swiss, 14; Guernsey, 6; Jersey, 4; Shorthorn, 3; and Angus, 2. The size range was from 1,100 to 2,100 lb. Except for animals 2, 3, and 4, all individual animals received the nerve block two or more times.

The period of time shown in the table to have elapsed between the injection and the treatment does not in all instances indicate the minimum length of time at which the treatment might have been started, but rather indicates when treatment was actually started. The prevailing circumstances did not always permit the treatment to begin as soon as the retractor penis muscle was sufficiently relaxed. In no case, however, was the relaxation or desensitization sufficient enough for treatment to begin in less than thirty minutes.

The restraint used indicates the temperament and attitude of the bull while being treated. Stocks were used in the early part of the series more from habit and availability than the necessity for additional restraint. The improvised stocks mentioned in trial 14 were used because the epidural injection resulted in partial paralysis of the pelvic limbs.

The degree of relaxation of the retractor penis muscle as well as the desensitization varied somewhat, but in 34 of the 51 trials the relaxation and desensitization was complete, *i.e.*, the retractor penis muscle was wholly relaxed and the glans penis showed no sensitivity to manipulation. Inability to apply the treatment was experienced with only 2 animals. In 1 of these (trial 26, table 1), the sigmoid flexure could readily be effaced indicating good relaxation of the retractor penis muscle, but the preputial orifice was extremely small and the retractor preputiae muscles seemed unusually well developed and actively functional. These conditions, coupled with a relatively poor sensory block, made it impossible to protract the penis. No explanation can be offered for the failure of trial 13.

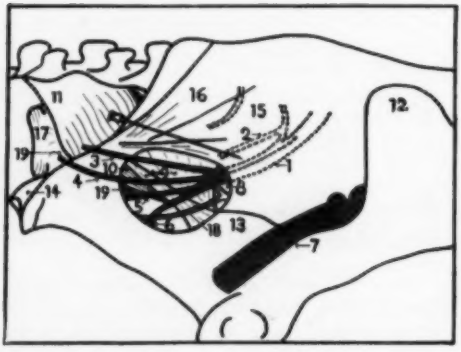
In trials made on or after June 2, 1952, the animals' response to cutaneous stimulation was checked by needle pricks in the

areas of distribution of the proximal and distal cutaneous branches of the internal pudendal nerve (fig. 3, No. 3, 4; fig. 4, No. 8, 9). Specifically, these areas are the perineum, which is the area interposed between the anus and the scrotum, and the areas lateral to the perineum extending 5 to 7 in. from the midline. There was little, or no, response to the needle pricks in any of the bulls tested.

A preparation of hyaluronidase in the recommended concentration was mixed with procaine solution used in trials 14, 21, 23, 33, 35, 36, 46, 56, and 57. No discernible difference between these trials and the others could be observed either in the length of time required for relaxation to take place or in the degree of relaxation and desensitization.

The three clinical trials not listed in

Fig. 4—Lateral view of a dissection of a bull's pelvis with the sacrosciatic ligament removed showing the distribution of the sacral spinal nerves. The position of the hand palpating the internal pudendal nerve is shown. The sacrum is partially chipped away to show the origin of the sacral spinal nerves.



Key to figure 4—(1) Internal pudendal nerve; (2) middle hemorrhoidal nerve; (3) caudal hemorrhoidal nerve; (4) position of hand in palpating internal pudendal nerve; (5) retractor penis muscle; (6) coccygeus muscle; (7) retractor anus muscle (reflected); (8) proximal and (9) distal cutaneous branch of internal pudendal nerve; (10) deep perineal nerve; (11) nerve becomes dorsal nerve of penis; (12) sympathetic trunk with ganglion; (13) ramus communicans; (14) sacrum, chipped portion; (15) deep fascia of multifidis dorsi muscle; (16) pelvic nerve; (17) rectum; (18) sciatic spine; (19 sciatic nerve.

table 1 are briefly as follows:

1) History and examination of a Hereford bull (No. 19), weighing 900 lb., revealed that the bull's penis and/or preputial membranes had been traumatized several weeks earlier. The animal was so sensitive in these areas that further examination was impossible without anesthesia of the penis along with the relaxation of the retractor penis muscle. The internal pudendal nerve block was administered as previously described and in thirty minutes the penis was easily protracted without further restraint. Examination revealed two severe lacerations on the free part of the preputial membranes. These lesions were well along in the process of granulation.

2) In a Hereford bull (No. 20), with a history of urinary retention, the internal pudendal nerve block was applied to facilitate the passage of a wire sound in an effort to determine the presence and possible location of urethral calculi. Thirty minutes after the injection was made, the penis was easily protracted and the sound passed with no response from the bull. Calculi were not encountered with the sound.

3) In animal 21, the history revealed that attempted protraction of the penis in this Hereford bull, using epidural anesthesia, had failed before bringing the animal to the clinic. Adhesions between the penis and the preputial membranes were suspected. Twenty-five minutes after application of the internal pudendal nerve block, the penis was freely protracted. No adhesions were present. A urethral sound was passed as far as the ischial arch without any symptoms of discomfort shown by the bull.

DISCUSSION

The data presented show that the internal pudendal nerve block has been successful in a high percentage of trials attempted. In analyzing the factors responsible for the success of this technique, we should consider first the innervation of the penis and retractor penis muscles. It is generally accepted that the internal pudendal nerve carries the sensory fibers from the penis to spinal cord. No reports have come to the attention of the writer which specifically describe the innervation of the retractor penis muscle in the bull. However, Langley and Anderson[4] have shown in the dog that contraction of the retractor penis muscle is mediated through the sympathetic fibers carried by the internal pudendal nerve. These findings were corroborated by Oppenheimer[5] in the cat. In addition, he observed that when the retractor penis muscle was given tonus by the sympathetic nervous system, then stimulation of the parasympathetic system would cause relaxation of the muscle. From these observations, it is reasonable to assume that the sympathetic fibers reach the retractor penis muscle of the bull via the internal pudendal nerve, and blocking this nerve should give relaxation of the retractor penis muscle and anesthesia of the penis. The experimental data in this report substantiates this theory. Work is in progress which should yield further information regarding the innervation of the penis and retractor penis muscle of the bull.

In comparing the internal pudendal nerve block with epidural anesthesia, it is important to note that each technique has certain advantages over the other. The epidural anesthesia is in some instances practically an ideal anesthetic. It is easily applied and gives anesthesia quickly. In obstetrical problems, such as overcoming straining for manipulative correction of malpresentations and reduction of the prolapsed uterus, the epidural method is most useful. In these instances, however, the posterior (low) epidural‡ method may be used which usually will not seriously impair locomotion of the pelvic limbs.

If, on the other hand, an anterior (high) epidural§ is given to a large bull, some decided disadvantages present themselves. Due to the rather complete loss of control over the pelvic limbs, the animal must be cast to accomplish the intended surgical procedure (Benesch,[8] Wright[6]). Even with a posterior (low) epidural (15 to 20 ml. of a 1% procaine solution), it was imperative to have specially constructed stocks to confine the bulls while treating them for trichomoniasis with bovoflavin salbe (Bartlett,[2] Dickmans[9]). Fincher[10] stated that he has often used sedative doses of chloral hydrate, given either orally or intravenously, to facilitate handling bulls while manipulating the penis under epidural anesthesia.

The failure of the epidural anesthesias to give satisfactory relaxation of the retractor penis muscle without loss of control of the pelvic limbs might be explained as follows: Langley and Anderson[4] made the observation in the dog that the sympathetic fibers (preganglionic) leave the

‡According to Wright,[6] posterior epidural anesthesia is when 10 to 15 ml. of 2 per cent procaine solution is given and only the sacral spinal nerves are anesthetized.

§According to Wright[6] and Brook,[7] anterior epidural anesthesia is when 25 to 70 ml. of 2½ per cent procaine solution is given, and the spinal nerves as far cranially as the lumbar region are anesthetized.

spinal cord no further caudally than the fifth lumbar segment and run in and synapse on cells of the ganglia of the sympathetic trunk (comparable to fig. 4, No. 12). These cells of the sympathetic ganglia give rise to fibers (postganglionic) which are distributed via the rami communicantes (comparable to fig. 4, No. 13) to the internal pudendal nerve which in turn distributes them to the retractor muscle. Assuming that a similar arrangement exists in the bull, it would be necessary for anesthetic solution given epidurally to reach as far forward as the fifth lumbar spinal nerve in order to cause relaxation of the retractor penis muscle. Since most of the nerves which supply the musculature of the pelvic limb arise caudal to the fifth lumbar nerve, their paralysis must be tolerated to get good relaxation of the retractor penis muscles with an epidural anesthetic. Because the obturator, femoral, and sciatic nerves are far removed from the internal pudendal nerve (fig. 4, No. 1, 19), perineural infiltration of this nerve does not cause locomotory impairment of the pelvic limbs, while it does result in anesthesia of the penis and relaxation of the retractor penis muscle. Two of the trials were on cases in which the posterior epidural had failed to cause relaxation of the retractor penis muscle (No. 1 and 21). The internal pudendal nerve block was highly successful in both these instances.

The main advantages of the internal pudendal nerve block over the epidural anesthesia for manipulation of the penis are:

1) The technique consistently results in anesthesia of the penis and relaxation of the retractor penis muscle.

2) Special stocks are not required, but if used the bull can be removed from them immediately after the operation is completed because full use of the pelvic limbs is retained.

3) A sedative is not necessary when protracting or manipulating the penis.

4) The bull can be treated in the standing position. Casting has been frequent with the epidural method (Benesch,[8] Wright[6]).

These advantages result, in the final analysis, in the ability to treat the penis of a bull with a minimum of restraint, and when the treatment is completed the animal can immediately be released in its stall, thus eliminating the hectic hours of after-care sometimes required for a bull with partial posterior paralysis due to an epidural injection. For example: by utilization of the internal pudendal nerve block, it was possible to apply treatment for trichomoniasis to 5 bulls (table 1, trials 6, 8, 10, 12, 15) in a period of not more than five hours. Including the after-care, this is the approximate time it has taken to treat 1 bull using epidural injection.

RECOMMENDED TECHNIQUE

Following is a brief summary of the technique found most suitable by the writer when administering the internal pudendal nerve block:

1) Restraint

A) Have one man hold the bull's nose ring to keep its attention.

B) Either tie the tail to the hock or have someone hold it.

2) Location of skin penetration site

A) In the dairy-type animal, where the ischiorectal fossa is visible, pass the skin cannula in the deepest part of the fossa (fig. 1).

B) In the beef or very fat dairy-type animal, palpate for the sacrotuberous ligament (fig. 3, No. 16) and penetrate the skin in the same relative position as in dairy-type animals.

3) Skin preparation at puncture site

A) Scrub the site with green soap and water using a good brush.

B) Shave.

C) Wipe clean with 70 per cent alcohol.

D) Apply mild tincture of iodine.

4) Dermal anesthesia

A) Use 26-gauge, ⅜-in. needle.

B) Enter the skin slowly and with slight pressure on the plunger.

C) Produce a wheal about 1 cm. in diameter.

5) Skin cannulas

A) Use a 15-gauge, ½-in. needle as a cannula if the gauge of the long needle selected is 18; use a 12-gauge cannula if a 17-gauge injection needle is to be employed.

B) The skin cannulas may be passed through the skin immediately after the intradermal wheal is produced.

C) These skin cannulas facilitate penetration of the tough skin with long flexible injection needles and also create a sterile path for these needles.

6) Passing the injection needles (4½-in, 18-gauge for dairy-type animals; 5-in., 17-gauge for beef-type animals).

A) A 5-cc. self-filling syringe (fig. 2) is convenient but not absolutely necessary.

B) Place left gloved hand in the rectum.

1) Pass the needle through the right cannula first (fig. 1) advancing its point toward the internal pudendal nerve previously located

with the left hand. Simultaneously, inject procaine solution as the needle is advanced. When the needle is palpable, bring its tip into the vicinity of the internal pudendal nerve and inject 20 to 25 cc. of 2 per cent procaine solution, then retract the needle about 1 in. and deposit 10 to 15 cc. more of the solution.

2) Repeat this operation on the left side after replacing the used injection needle with a sterile one.

7) Wait at least thirty minutes before attempting manipulation of the penis.

8) Restraint used while manipulating the penis should be chosen to fit the need of the individual case. One, or a combination of several, of the means of restraint described in table 1 should fit any circumstances encountered.

SUMMARY

Epidural anesthesia leaves considerable to be desired when used to cause relaxation of the retractor penis muscle. If a low epidural anesthesia is used, poor relaxation is the result. With a high epidural, the locomotory involvement of the pelvic limbs is marked. This is a serious side effect under field conditions where stocks or chutes are seldom available to keep the animal on its feet.

The evaluation of the internal pudendal nerve block is based on 54 trials on 20 different bulls.

1) Thirty-four trials resulted in complete anesthesia of the penis and complete relaxation of the retractor penis muscle. These results were due, in the writer's opinion, first to the fact that it is possible to block both the afferent and efferent nerve fibers to these structures by performing a perineural injection of a single nerve (internal pudendal) and, second, that this nerve and the injection needle can be accurately located by rectal palpation. This eliminates most of the possibilities of making the injection too far from the nerve.

2) The remainder of the trials, with the exception of two, showed adequate anesthesia and relaxation.

3) Incidental cutaneous anesthesia was noted over the perineum.

4) Locomotory impairment of the pelvic limbs was not seen in any of the bulls.

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Monozygotic Cattle Noseprints

Monozygosity, the origin of more than one individual from a single fertilized ovum, is sometimes difficult to establish. In calves, the size, spots, hair whorls, and general appearance have in the past been considered as indications but now noseprints also are available. Classification of noseprints is based on configurations resulting from rows of sweat glands. The noseprints are classified by their general pattern and by secondary characteristics.

Of the 31 pairs of twins and 1 set of triplets studied, the general pattern was similar in 80.6 per cent of the pairs and, furthermore, 22 of the 31 pairs had one or two, of the possible three, similar secondary characteristics. Therefore, it seems possible to use noseprints as an added criterion for proving monozygosity.—*J. Dai. Sci., Jan., 1953.*

Gonadotrophin for Cryptorchidism

A 2-year-old Thoroughbred colt had one well-developed testicle but no trace of the second in the scrotum. He was given 1,000 I.U. of "pregnyl" (gonadotrophin) intramuscularly twice a week. In eight weeks the second testicle could be palpated. Upon castration, it was found to be very small and flabby.—*Irish Vet. J. Sept., 1952.*

Long Term Studies on Dogs Fed Aldrin and Dieldrin in Sublethal Dosages, with Reference to the Histopathological Findings and Reproduction

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ALDRIN AND DIELDRIN* are insecticides of increasing importance, and toxicological investigations were deemed advisable in order to evaluate the probable effect of these compounds on dogs.

Since the physiological effects on human beings must be anticipated largely through animal experimentation, a review of the considerations involved in evaluating the data obtained from the dog studies is pertinent. The principal reason for the obstacles encountered, in attempts to transfer the conclusions based upon lower animals to man, arises from the fact that the objectives constantly sought are selective toxic effects for similar protoplasmic constituents.

Species susceptibility to various protoplasmic poisons has been proved beyond reasonable doubt. But the fact that this sensitivity may be used in comparing the activity of various compounds without attempting to transfer the observations directly to man has not been generally recognized. This is particularly true in dealing with the newer pesticides.

The study herein reported upon was begun with 21 dogs divided into seven groups of 3 each. Each group contained a representative of each sex. The division gave a control group and three dosage levels for both aldrin and dieldrin. The dosages employed were 0.2, 0.6, and 2.0 mg. per kilogram of body weight.

The two insecticides were dissolved in corn oil and the required dosages were taken from freshly prepared stock solution and were introduced into meat balls (canned dog food). Dosages were adjusted from week to week and on the occasion of the weekly weighing of the dogs. Since the study was designed to extend for one year, replacement dogs were added as needed to keep the groups up to strength.

An important indication of the ability of an animal to tolerate unfavorable conditions is the capacity to become pregnant and to support healthy offspring to full term. An excellent opportunity to observe the effects of aldrin and dieldrin upon reproduction in dogs was afforded during the year (table 1).

Nine of the 11 females on test and 1 control became pregnant and came to term. One female receiving 0.2 mg. per kilogram of dieldrin successfully raised a litter of 4. Two others, 1 receiving 0.2 mg. per kilogram and the other 0.6 mg. per kilogram of body weight, raised part of their litters. The former animal actually supported two pregnancies. In an earlier publication,[1] it

TABLE 1—Effect of Aldrin and Dieldrin on Reproduction in Dogs

Dog	Compound	Dosage mg./kg.	No. in litter	No. surviving	Histopathological findings (puppies)
2	Aldrin	0.2	5	2	.....
4	Aldrin	2.0	4	0	.....
5	Aldrin	0.6	4	0	Necrosis.
6	Aldrin	0.2	7	0	Parenchymatous degeneration of liver and adrenal tubules.
8-B	Aldrin	0.6	5	1	Slight diffuse degeneration of liver and renal tubules.
10	Control	...	5	5	All organs normal.
17	Dieldrin	0.2	4	4	All organs normal.
19	Dieldrin	0.6	4	0	Necrosis.
19-A	Dieldrin	0.6	10	0	Diffuse degeneration of liver and renal tubules.

Two pups survived of 12 born to bitches fed 0.2 mg./kg. of aldrin; 1 of 9 on 0.6 aldrin; none of 4 on 2.0 aldrin. All of the 4 pups from a bitch on 0.2 mg./kg. of dieldrin survived, but none of the 14 on 0.6 dieldrin.

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Contribution No. 126, Department of Veterinary Medicine, Agricultural Experiment Station, Kansas State College, Manhattan.

This work was supported by a research grant established in 1949 by Julius Hyman & Company, Denver, Colo. The coördinating committee consists of Drs. R. I. Throckmorton, E. E. Leasure, C. H. Kitselman, A. R. Borgmann, and P. A. Dahm.

The histopathological studies reported were made by the Kettering Laboratory, University of Cincinnati, College of Medicine, Cincinnati, Ohio.

*Aldrin and dieldrin are coined names for the insecticides whose principal ingredients are, respectively, 1,2,3,4,10,10-hexachloro-1,4,4a,8,8a,-hexahydro-1,4,5,8-dimethanonaphthalene, and 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4,5,8-dimethanonaphthalene. These insecticides were developed by Julius Hyman & Company, Denver, Colo. As used in these experiments, both compounds were recrystallized to contain not less than 99 per cent of the principal ingredient.

was reported that a cow eating aldrin-treated hay containing 8 p.p.m. successfully carried her calf to term.

Four of the remaining six litters born were made up of living, plump, and apparently healthy pups, but they died within three days after nursing their dams. In the other two litters, all of the pups were either born dead or died on the day of birth. In both of the latter cases, the dam also died because of a necrotic endometritis occurring as a complication of the pregnancy.

It was evident that the pups could either tolerate higher concentrations of the insecticides *in utero* than after birth, or in some way they were protected from the toxic material circulating in the blood stream of the dam. However, in contrast to the resistance demonstrated by the mature animal, after birth the pups succumbed to the compounds contained in the milk of the dams that were probably in relatively enormous dosages.

This experience confirms the observations made elsewhere[2] when weanling puppies were employed in similar studies. It is quite evident that the cells of the mature dog can support far more of these materials than can the tissues of the young animal.

HISTOPATHOLOGY

During the early stages of the study, facilities were not available for the histopathological study of the dog tissues but later such examinations became possible so that all dogs killed or dying toward the terminal part of the year were examined microscopically. The observations on the tissues are noted in table 2. Dr. Frank Dutra of Kettering Laboratory, who made the histopathological examination, commented on his findings as follows:

> Some workers[3,4] have called attention to a specific reaction of the cells of livers of rats that have been receiving chlorinated hydrocarbon insecticides in the diet, when the concentrations were above certain minimal levels. This is an alteration of the cytoplasm and rearrangement of the cytoplasmic granules into a peripheral arrangement. Such changes did not occur in your dogs, the only alteration being a parenchymatous degeneration in the cells of the liver, kidney, and brain. Such changes can not be predicted during life, since they occur either in animals so grossly intoxicated by large doses of the insecticide that the changes are masked by general signs of poisoning, or in animals that do not have any clinical evidences of poisoning.
>
> The changes observed in your dogs varied widely, both qualitatively and quantitatively. Since they were not observed in control animals, they were presumably due to the aldrin or dieldrin, but they did not differ from degenerative changes that occur in certain natural diseases and intoxication with some other types of chemical substances. Changes of this type are known to be labile and tissues so affected will revert to normal after the period of poisoning or disease.

On the basis of the above report, it appears that aldrin and dieldrin are capable of inducing organic changes in the tissues of dogs. In surviving animals, however, such induced pathological conditions disappear soon after the insecticide is removed from the ration. Longer and more precise

TABLE 2—Histopathological Findings in Dogs Fed Sublethal Dosages of Aldrin and Dieldrin

Dog	Compound	Dosage mg./kg	Macroscopic lesions	Histopathological findings
1-A	Aldrin	0.2	Parenchymatous degeneration of the liver.	Moderate diffuse degeneration of ganglion cells of brain and parenchymal cells of liver and renal tubules.
2	Aldrin	0.2	Parenchymatous degeneration of liver and kidneys.	Diffuse degeneration of ganglion cells of brain. Marked parenchymatous degeneration of liver and renal tubules.
6	Aldrin	0.2	Parenchymatous degeneration of the liver.	Moderate degeneration of ganglion cells of cerebral cortex. Parenchymatous degeneration of liver and renal tubules.
8-B	Aldrin	0.6	Liver swollen.	Moderate degeneration of ganglion cells of brain. Moderate parenchymatous degeneration of liver and renal tubules.
13-A	Dieldrin	0.2	Normal.	Slight degeneration of cells of the cerebral cortex. Slight diffuse parenchymatous degeneration of liver and renal tubules.
14-B	Dieldrin	0.2	Pyelonephritis.	Moderate parenchymatous degeneration of cerebral cortex. Chronic pyelonephritis. Slight diffuse degeneration of liver.
17	Dieldrin	0.2	Hepatitis.	A few cells of ganglion of cerebral cortex showed degeneration. Parenchymatous degeneration of liver and slight degeneration of renal tubules.
18	Dieldrin	0.6	Hepatitis and nephritis.	Diffuse degeneration of brain. Severe parenchymatous degeneration of liver with necrotic foci. Diffuse degeneration of renal tubules.
19-A	Dieldrin	0.6	Hepatitis.	Diffuse degeneration of cells of cerebral cortex. Parenchymatous degeneration of liver.

All of the organs of the control dogs were normal upon microscopic section.

experiments within the determined ranges are necessary to ascertain this point.

CONCLUSION

1) The observations of the pregnancies would suggest that the reproductive capacity, either in regard to becoming pregnant or carrying the young to term, is not interfered with by either aldrin or dieldrin.

2) It appears that the compounds are excreted in considerable amounts in the milk of the dam. Although the high mortality in apparently normal litters may be due to the extreme susceptibility of the young animal, there is strong presumptive evidence that the young received extremely large doses of the insecticides while nursing.

3) The evidence, although not complete, indicates either that the fetus is able to tolerate the blood concentrations found with the smaller dosages of these insecticides, or that these compounds do not pass the placental barrier.

4) Limited histopathological studies revealed similar changes for dogs receiving aldrin and dieldrin. The lesions which have been associated by some workers with exposure to chlorinated hydrocarbons were not extensive in the dogs receiving the small and moderate doses of either aldrin or dieldrin. These changes have been proved reversible when the animal is removed from exposure.

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The Proved Matron.—A matron is technically proved with the registration of a litter of her puppies. An opinion is given that the bitch would not qualify if the pups were born by cesarean. To sell such a matron as proved might well be called misrepresentation.—*Dog World, March, 1953.*

Influence of Glycerol in Conservation of Bull Semen at Low Temperature

The author describes a technique for the preservation of bull semen at low temperature (-79 C). The survival of the sperm cells, depending upon the use of diluents containing glycerol, is substantiated. The semen is diluted at +38 C. with an isotonic citrate-fructose yolk buffer and cooled slowly to +2 C. At this temperature glycerol is added by means of a citrate-fructose yolk buffer containing glycerol. After the semen has been equilibrated and diluted for some hours, it is cooled slowly at a rate of 1 C. per minute between +2 C. and −20 C.; at a rate of 3 C. per minute between −20 C. and −79 C.

Semen preserved in this manner for sixteen days resumes motility up to 35 to 50 per cent after thawing to a +38 C. As appears from the motility of the sperm cells, a concentration of 7.5 per cent glycerol is optimal. Greater concentrations of glycerol cause a reduction of the motility ascribed to the toxicity of the glycerol.—*Tijdschr. Diergeneesk., Dec. 1, 1952.*—L. VAN ES.

De-Snooding to Reduce Erysipelas

Erysipelas is common in turkeys and the infection is believed to frequently enter through wounds in the snood, the red appendage which hangs over the tom's beak. When poults come from the hatchery, the snood is small but can be excised with toenail clippers or curved scissors. The snood has no function so will not be missed.—*Farm J., April, 1953.*

Eccentric Tails on Spermatozoa.—Two Holstein-Friesian bulls, in which 10 to 40 per cent of the spermatozoa had an eccentric implantation of the tail, gave good conception results when used for artificial insemination. Therefore, the conclusion that the eccentric implantation was the cause of a low conception rate probably should be considered to be wrong.—*Tijdschr. Diergeneesk., Dec. 15, 1952.*—L .VAN ES.

In Japan, a very large percentage of all breeding of goats is done artificially.—*Dai. Goat J., May, 1953.*

Traumatic Epiphysitis in a Young Foal with Metacarpus Vara

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A 4-week-old stud colt was admitted to the large animal clinic of the New York State Veterinary College with the following history: The colt was born with a congenitally deviated left foreleg and a swollen navel that had gradually enlarged. The owner declared the leg had not changed in its deviation since birth, and that the animal was worthless in his present condition but would be valuable if the limb were straight.

Examination revealed a robust individual with an apparent metacarpal deviation. The limb was straight from shoulder to carpus and from carpus to hoof. The lateral deviation of approximately 7 degrees was in the carpal area. External examination of the carpus was negative. A comparative radiograph of both carpi was taken and the lesions were suggestive of a traumatic aseptic epiphysitis (fig. 1). The navel swelling was approximately 5 cm. in diameter and no hernial ring could be palpated. Aspiration of the mass yielded an odorless, heavy, yellow pus.

The following day, the colt was given 10 cc. of nembutal ® intravenously, a regional field block with 2 per cent procaine, and the abscess was extirpated. Postoperatively, the colt received 600,000 units of repository penicillin intramuscularly.

Five days later, the colt was anesthetized with 60 cc. of a chloral hydrate-magnesium sulfate-pentobarbital solution intravenously, and the medial aspect of the left carpus was prepared for surgery. A 3.5-cm. Venable-type vitalium plate was shaped to fit the bony contours of the medial distal metaphysis and radial epiphysis as visualized in the radiograph. The area was prepared, draped, and a 6-cm., longitudinal incision was made through the skin, subcutaneous fascia, medial collateral ligament, and the periosteum proximal and distal to the epiphysis. The incised periosteum was then elevated sufficiently

Fig. 1—Sketch of anterior aspect of the carpal joints. Note excessive angulation of left carpus.

to allow the plate to be slipped beneath it, bridging the medial epiphysis, and two 1.5-cm. vitalium bone screws to be inserted (fig. 2). The periosteum and medial collateral ligament were closed with a continuous suture of No. 0 plain catgut. The skin and subcutaneous tissue were closed

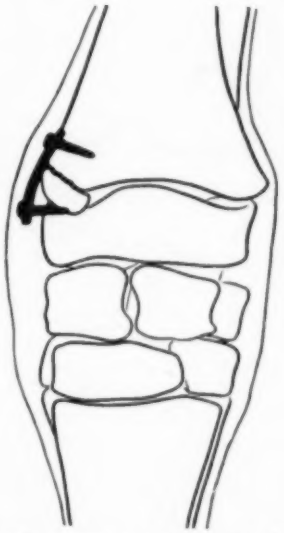

Fig. 2—Sketch of plate in position. The distal screw should have been in the center of the epiphysis.

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Presented before the Annual Conference for Veterinarians, New York State Veterinary College, Ithaca, Jan. 9, 1953.

with a continuous vertical mattress suture of No. 0 monofilament nylon and a sterile pack was applied. Postoperatively, the colt received 500,000 units of crystalline penicillin intravenously.

The nervous dam did not give sufficient milk for the foal so the pair were discharged forty-eight hours after the operation. Before dismissal, the colt received 1,600,000 units of repository penicillin intramuscularly. The owner was instructed to remove the sutures in seven days.

The foal was returned eleven weeks later with a straight leg and a smoothly healed navel. A slight swelling was present over the area of the plate, but it appeared that the wound had healed by first intention. Another radiograph revealed that the distal screw was in the center of the epiphysis, that a periostitis 3 to 8 mm. in depth had developed over the distal two-thirds of the plate (fig. 3), and that the epiphysis was beginning to close.

The colt was again prepared for surgery and anesthetized with 225 cc. of chloral hydrate-magnesium sulfate-pentobarbital solution intravenously and a regional field block of 2 per cent procaine HCL solution. An incision was made anterior to the old scar and down to the proximal tip of the plate. The new periostitic bone was removed with chisel and curette and the two screws and plate were removed. The periosteum and fascia were closed with No. 000 medium chromic catgut, and the skin with No. 1 monofilament nylon in a continuous vertical mattress suture.

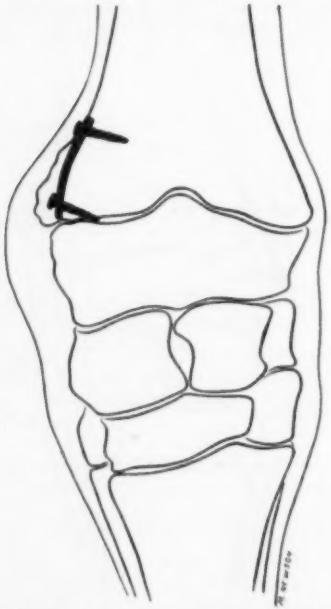

Fig. 3—Sketch of plate at time of removal. Note callus.

A sterile knee bandage was then applied, more penicillin given, and the colt was loaded in a truck and sent home. The owner was instructed to have his local veterinarian repeat the penicillin for two days, and to remove the sutures in seven to ten days.

Observation eight months later revealed a straight leg.

Comments.—A modification of reported methods [1-4] of epiphyseal growth retardation seems to have been successful. Free choice in handling the case permitted experimentation with a different type of material than has been reported in the literature to date. According to the theories behind epiphyseal growth retardation in human subjects, two principles were violated: (1) the position of the plate was not optimal, and (2) the single plate was not sufficient to suppress growth of the epiphysis, yet the results with the described method were satisfactory. The simplicity of the method warrants further use until the congenital nature of the condition is either proved or disproved. No metastasis of infection appeared to occur in this area of "locus minoris resistentiae."

Summary.—A modified method of epiphyseal stapling was attempted in a young foal with marked beneficial and no untoward effect.

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Quintuplets occur in goats, perhaps two dozen times each year in the United States; quadruplets more frequently.—*Dai. Goat J., May, 1953.*

Unusual Reproductive Phenomena

White rats and mice have been reported to deliver two successive litters without having been bred a second time. In the following observed cases, including 1 guinea pig, the pregnant animal was segregated from the time she was obviously pregnant until the young were of weaning age.

Case 1.—On Sept. 18, 1940, a white rat was isolated; on September 20, 8 young were born and survived; on October 15, another litter of 11 was born (2 survived) and the first litter, 25 days old, was removed.

Case 2.—Mouse L was isolated July 29, 1950; she delivered 6 young on August 8, and a second litter of 7 on September 3. She could not have been mated since July 29.

Case 3.—A brown deer mouse was isolated Dec. 18, 1950. On December 27, 2 young, about 1 week old, were found. On Jan. 15, 1951, 4 newborn young were found.

Case 4.—An albino guinea pig was isolated on April 14, 1952, and during the week of May 12 delivered 4 young. On June 27, she gave birth to 3 more. The time between the birth of these two litters was forty-two to forty-six days.

Delayed implantation of the blastocyst stage occurs normally in certain animals and irregularly in others, including rats and mice. However, if delayed implantation is the explanation of the first 3 cases, the blastocysts must have survived during the first pregnancy, been retained in the uterus during delivery, and been implanted following delivery of the first litter.

A second phenomenon is superfetation, delivery of a second litter at a shorter interval than the normal gestation period. It seems unlikely that this is the explanation of the rat and mice cases, as the time intervals between litters was longer than the normal gestation period, but the guinea pig may be an example since the interval between the two litters was much shorter than the minimum gestation period. The time between her isolation and the birth of the second litter (70-74 days) coincides with guinea pigs' maximum gestation period.

Parthenogenesis is improbable in 2 cases because the last litters consisted of animals of both sexes. These phenomena may be more common than the literature would indicate.—*Science, Feb. 13, 1953.*

Sex of Newborn Related to Sire's Age.—It has been said that older mothers produce fewer male children than do young mothers. A study by the U. S. Bureau of Vital Statistics indicates that the decrease in the male sex ratio is linearly related to the age of the father and is independent of the age of the mother.—*Science, May 15, 1953.*

Hormones Stimulate Ovulation

Thirty-two heifer calves weighing from 90 to 180 lb. were given daily subcutaneous injections of follicle-stimulating gonadotrophic extracts for three to six days. About twenty-four hours later, each was given an intravenous injection of a luteinizing extract to induce ovulation. Six to eight hours later, each was artificially inseminated. In 9 calves, the semen was injected in large volume into the peritoneal cavity.

Laparotomies were performed on the other 23; semen was injected into the uterus of 10 and introduced into the upper oviduct of 13. Two or three days later the calves were killed for examination.

Moderate to extreme follicle stimulation had occurred in all but 1, but corpora lutea had formed in only half of the calves. Thirty-five ova were recovered from 10 of this 16 but only 7 ova had been fertilized. The latter were recovered from 2 calves, both of which had been inseminated by laparotomy.—*J. Dai. Sci., March, 1953.*

Influence of Castration on Brucella Abortus Infection

The resistance of young animals, especially calves, to brucellosis has been assumed to be due to their lack of sexual maturity. When castrated male and spayed female guinea pigs were experimentally inoculated, intraperitoneally, 6 of 9 males and 4 of 5 females became infected, whereas among unaltered controls, all of 5 males and 5 females became infected. In a second trial, 19 of 28 castrated males and 21 of 30 entire males became infected.—*Vet. Bull., April, 1953.*

CLINICAL DATA

Pseudorabies Virus Infections in Dogs

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ALTHOUGH THE virus of pseudorabies has been reported as isolated from dogs in the British Isles,[1,2] centrai Europe,[3,4] North Africa,[5] Turkey,[6] and Russia,[7] only two instances of this disease in dogs have been recorded in the United States. In neither of these was an effort made to isolate or identify the virus. One of the cases was recorded by Brown[8] in North Carolina in 1939, and diagnosis was made upon clinical symptoms of pruritus rapidly followed by death of the animal. The other case was noted in a dog in Georgia in 1952,[9] and again diagnosis was made only upon clinical symptoms.

Pseudorabies (Aujeszky's disease, infectious bulbar paralysis, "mad itch") virus has been isolated from naturally infected cattle, sheep, pigs, horses, dogs, cats, and rats. The clinical picture of pseudorabies in infected animals is usually characteristic. The animal develops an intense pruritus on a certain area of the skin and will scratch convulsively upon this area until it is denuded of hair and severely traumatized. Paralysis follows, and the animal usually dies within twenty-four to forty-eight hours after these symptoms appear. The disease in swine seems to be relatively mild, and in this species the itch symptom is usually absent; immature pigs often die of the disease, with symptoms of staggering, sluggishness, vomiting, and convulsions. Among cattle and sheep, the disease is reported to be highly fatal but not contagious. In dogs and cats, it is rapidly fatal.[10]

MODE OF SPREAD

The modes of spread of pseudorabies are not clear. Sporadic cases may occur years apart in some localities, while in others the disease appears to be enzoötic in pigs, as in the midwestern United States, Brazil, and certain parts of central Europe. Outbreaks of pseudorabies in various domestic animals, including cattle, swine, cats, and dogs, have been identified in central Europe, Russia, the British Isles and Ireland, Spain, Italy, France, North and South America, North Africa, Turkey,[11] and recently in China.[12] The only reported human cases occurred in Turkey in 2 laboratory workers who had cuts on their hands while handling infective material during autopsies. They developed mild pruritus of the arms and aphthous lesions in the mouth, with recovery in three days.[13,14]

In the United States, reports have been published of isolations and identification of pseudorabies virus from pigs in the Middlewest in the 1930's,[15] from a steer in Illinois in 1941,[16] in a herd of cattle in Wisconsin in 1945,[17] in a cattle herd in Minnesota in 1946,[18] and in swine in Georgia in 1952.[19] The virus was also isolated at this laboratory in 1947 from the brain of a cow from southern Alabama.

Pseudorabies virus has been isolated at this laboratory from the brains of 4 dogs within the last four years. Two of the

TABLE 1—Comparative Susceptibility of Mice and the Chorioallantoic Membrane of Embryonating Eggs to Infection with Pseudorabies Virus

Pseudorabies strain	Virus dilution	Pox count (ave.) 0.2 ml. c.a. membr. 12-day-old eggs	Mortality ratio 0.03 ml. intracerebral 3-week-old mice
Shope	1:10	228.0	10/10*
	1:100	66.6	5/5
	1:1,000	17.8	5/5
	1:10,000	0.6	1/5
Alabama	1:10	71.5	.....
	1:100	17.6	10/10
	1:1,000	0.5	2/5
	1:10,000	0	1/5
Louisiana	1:10	230.0	9/9
	1:100	24.5	5/5
	1:1,000	4.9	2/5
	1:10,000	0.5	0/5

*10/10 = 10 mice died out of 10 inoculated.

From the Virus and Rickettsia Section, Communicable Disease Center, Public Health Service, U.S. Department of Health, Education and Welfare, Montgomery, Ala.

dog brains were received from state health department laboratories for routine mouse-inoculation tests performed on rabies suspects. The other two specimens were referred by state health department laboratories for virus identification. The dogs came from four different areas: Orlando, Fla. (Oct., 1948); Augusta, Ga. (June, 1949); Eufaula, Ala. (May, 1951); and Baton Rouge, La. (July, 1951).

A detailed case history obtained from Dr. W. M. Lynn, of Orlando, on the Florida dog stated that it belonged to a farmer and was used as a hog and cattle dog, often coming into contact with swampy sections. The owner noticed the dog scratching the right side of its head and face, which it continued to do all day. By night, the animal had become very nervous and the scratched head had begun to bleed so that the dog had to be taken to a veterinarian and was hospitalized. By this time, it became difficult to manage, and would sit and scratch and howl, its face torn and badly bruised. It dropped onto its left side and continuously scratched the right side of its head. When turned over on its right side, it would roll back to its left side and continue scratching. The dog was anesthetized and the open wounds were treated. The next day, the dog recovered from the anesthesia, began the same scratching, refused food or drink, and suffered so much that it was anesthetized again. It slept the remainder of the day and died during the night.

The clinical history obtained from Dr. D. M. Howard, of Augusta, on the Georgia dog stated that it was brought to the veterinary hospital with a swollen jaw, scratching and clawing at the left side of its face, and convulsions. The day before, it had appeared normal. The animal apparently was in intense pain, and touching the infected area would precipitate convulsions. The dog had been fed garbage from the Oliver General Hospital.

The clinical history of the dog obtained from the Louisiana State Diagnostic Laboratory was also typical of pseudorabies.

No history could be obtained on the Alabama dog.

ISOLATION AND TRANSMISSION OF THE VIRUS

These dog brain specimens were routinely inoculated intracerebrally into 3-week-old white Swiss mice, in a dosage of 0.03 ml. of a 10 per cent brain suspension. To one grossly decomposed brain, 1,000 units of penicillin and 2 mg. of streptomycin per milliliter of suspension were added before inoculating the suspension. Inoculated mice died within two to ten days, most of them on the third to fifth day after injection. The progression of symptoms in mice was very rapid; often mice appearing normal in late afternoon would be found dead the next morning. When symptoms were noted in mice, they included slight tremors, roughing of fur, and occasional convulsions. By far the most characteristic symptom was an intense, almost convulsive, pruritus observed in many of the mice. This continued until prostration and death occurred, usually within a few hours after the scratching had begun. Pruritus in intracerebrally injected mice, as evidenced by dried bloody patches, was observed on many different areas of the body, on the limbs, the abdomen, the neck, the top of the head, or even along the length of the tail. Of a total of 450 intracerebrally injected mice dead with four strains of the virus, 48 per cent showed pruritus before death.

Cerebral passage of infected mouse brains in rabbits produced death in twenty-four to forty-eight hours. Subcutaneous injection of the material into rabbits produced temperatures of 105 to 106 F. on the third day, with swelling and pruritus around the site of inoculation, the course of illness lasting twenty hours or less before death. Following subcutaneous injections in the flank, virus was recovered from the subcutaneous tissue around the site of inoculation and from the lumbar and thoracic cords, but very little or no virus was recovered from the brains. Guinea pigs showed no symptoms following subcutaneous inoculation of identical doses, but after continued subcutaneous inoculation of increasing doses of active virus, some guinea pigs developed neutralizing antibodies. Intraperitoneal doses of virus killed 5 out of 10 guinea pigs and the virus was recoverable from the brains of the dead animals.

An established strain of pseudorabies virus in the form of glycerinated rabbit brain and pseudorabies-immune swine serum was obtained for comparison through the courtesy of Dr. R. E. Shope of the Rockefeller Institute for Medical Research.

This virus was given two intracerebral mouse passages in our laboratory and produced clinical symptoms, including pruritus, similar to those strains isolated from naturally infected dogs. Serial intracerebral mouse passages of the four dog strains were also made, and the mouse brains were harvested and prepared as 20 per cent suspensions diluted in either 10 per cent normal rabbit serum-saline or in 0.1 per cent bovine albumin-buffered saline. These were stored in sealed ampules at -70 C. for further tests.

Virus-serum neutralization tests were performed in mice against each strain using the immune swine serum as a positive serum, and normal rabbit serum as a negative control. The pseudorabies-immune swine serum neutralized each of the viruses to a significant extent.*

Simultaneous titrations of Dr. Shope's strain and two of our strains were made in mice and eggs. Three-week-old mice received 0.03 ml. intracerebrally. Twelve-day-old embryonating hen eggs received 0.2 ml. upon the chorioallantoic membrane. These eggs were killed by refrigeration after forty-eight hours and were examined for pox.[20] In general, these lesions appear to be similar to those produced by herpes simplex virus, being very small and often confluent where the largest concentrations of virus had been injected. Table 1 shows results of average pox counts and mouse mortality ratios. The virus content of infected chorioallantoic membranes was essentially equal to that of infected mouse brains.

Experimental infection with pseudorabies (Shope strain) of a small number of dogs was attempted. Intracerebral inoculation of 0.5 ml. of a 10 per cent mouse brain suspension produced death of a dog in seventy-two hours, with convulsive seizures starting less than sixteen hours before death. Virus was recovered from the brain only; other tissues tested by intracerebral mouse inoculation yielded no virus (table 2). Subcutaneous inoculation produced death of 2 dogs in five days, with a rise in temperature, paralysis of neck and limbs, mild pruritus near the site of injection, and death less than twenty-four hours after the appearance of clinical symptoms. Upon autopsy, virus in very low titer was recovered from the brain of only 1 of these dogs. The spinal cord of this dog was not tested. In the other dog receiving subcutaneous inoculation, virus was recovered from the subcutaneous tissue around the site of injection and from the lumbar, thoracic, and cervical cords, but not from the brain.

TABLE 2—Results of Experimental Inoculation of Pseudorabies Virus (Shope Strain) Into 4 Dogs

Dog (No.)	Amt.	Route	Incub. period	Virus recovered from tissue on autopsy											
				Brain	Thoracic cord	Cervical cord	Lumbar cord	Salivary gland	Subcut. tissue	Serum	Spleen	Heart	Liver	Lung	Kidney	Urine
72	0.5 ml.	icer.	3 days	+				0		0	0	0	0	0	0	0
15	1.0 ml.	subcut.	5 days	+				0	0	0	0	0	0	0	0	0
88	1.0 ml.	subcut.	5 days	0	+	+	+	0	+	0	0	0	0	0	0	0
2	1.0 ml.	i.m.	5 days	0				0	0	0	0	0	0	0	0	0

+ = virus recovered; 0 = no virus recovered.

Intramuscular inoculation produced death of a dog in five days, with paralysis of legs, twitching, staggering gait, and feeble attempts to scratch. Virus could not be recovered from the brain of this dog (table 2). Normal dogs in contact as cage mates with each infected dog remained well throughout several months' observation.

CONCLUSIONS

Pseudorabies virus has been recovered from the brains of dogs dying with symptoms of the natural infection. Experimentally, the virus may not necessarily be present in the brain and yet it can be isolated from subcutaneous tissue of the pruritic area or from that part of the central nervous system supplying this area. In choosing tissues for virus isolation from animals suspected of having pseudorabies, it is suggested that in addition to the brain, the subcutaneous tissue in and about the scratched areas, as well as portions of the spinal cord nearest to the affected body region, be selected.

*The logs of neutralization for the various strains are: Shope, 1.83; Florida, 1.67; Georgia, 0.9; Alabama, 1.5; and Louisiana, 1.42.

Mice are uniformly susceptible to pseudorabies virus by intracerebral inoculation, and a certain percentage show the pruritus which is an important adjunct to serological confirmation.

SUMMARY

The virus of pseudorabies has been recovered from the brain tissue of 4 naturally infected dogs from southeastern United States. The four strains produce clinical symptoms of pruritus when inoculated intracerebrally into mice and are similar to the virus isolated by Shope from swine in midwestern United States.

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Hemorrhagic Disease in Chickens

An apparently new disease condition in broiler flocks is becoming a serious problem in Pennsylvania. Birds affected with this disease, which resembles coccidiosis, become weak and droopy and have pale or light yellow combs and wattles. The condition appears to be most common in birds 5 to 8 weeks of age, but it has been observed in one group of broilers 3 weeks old. Mortality varies considerably but has reached 15 per cent in one group. Postmortem lesions are striking in many cases and the location, degree, and extent of the lesions are variable. Petechial and ecchymotic hemorrhages are found throughout the musculature.

Internally, the liver, heart, intestinal serosa, and proventriculus may show the same type of hemorrhage. Hemorrhagic erosions are present in the gizzards of some specimens. The kidneys are gray and swollen, with urates present in many cases.

The majority of the affected flocks have been on a high-energy antibiotic feed containing a coccidiostatic drug. Many have received additional treatment for coccidiosis in the drinking water. The recommended treatment at the present time is withdrawal of medicated feed and medicated water, with the substitution of a feed high in alfalfa and liver meals for about one week. A 20 per cent dairy ration resulted in a sharp drop in mortality within two to three days in one small group of birds.—*Cur. Vet. Topics, Univ. Pennsylvania, March, 1953.*

Toxicosis of Chickens Caused by Trichloroethylene-Extracted Soybean Meal

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DURING THE YEAR 1952, cattle and sheep losses occurred in North Dakota as the result of feeding toxic soybean oil meal from which the oil had been extracted with trichloroethylene. This occurrence has been reported by Holm, Eveleth, and Dinusson.[1]

Certain lots of soybean oil meal prepared by extraction with trichloroethylene were first shown to be toxic to cattle by Stockman.[2] The literature dealing with this subject has recently been reviewed by Pritchard, Rehfeld, and Sautter.[3]

Much of the known toxic and suspected toxic meal was mixed by some feed dealers into poultry and swine feeds.

This investigation was undertaken to test the effect of a meal, known to be highly toxic for cattle, on young chicks.

Day-old, white Leghorn, male chicks were used as test birds. The ration used was a standard commercial chick mash containing 22 per cent soybean oil meal. The control ration was made with a hexane-extracted meal, while the toxic soybean oil meal (TSBOM) ration contained trichloroethylene-extracted meal taken from a farm where cattle had been poisoned.

The chicks were started on the mash without any previous feeding and were brooded in the same battery brooder with a constant source of light. Feed and water were available at all times. There were 103 chicks in each lot at the start of the feeding period. The rations were fed for fifty days, at which time the available toxic meal was consumed and it was necessary to discontinue the experiment. The number of dead animals in each group and the length of time which they consumed toxic or control feed is given in table 1. Over a period of fifty days, the death loss in the control pen was 4.8 per cent while that in the toxic soybean oil meal was 26.3 per cent.

When the feeding test was discontinued, the remaining 98 control birds averaged 1.12 lb. each, while the 76 remaining TSBOM-fed chicks averaged 0.78 lb. each.

With the termination of the experiment, 50 blood samples were taken from each group for hemoglobin determinations and 25 from each group were bled for differential leukocyte counts. These data are given in table 2.

TABLE 1—Effect of Trichloroethylene-Extracted Soybean Meal on Chicks

Days fed on ration	No. of chicks dying each day	
	Control	TSBOM
0	1	0
1	1	0
5	0	1
8	0	1
9	0	3
10	0	2
11	1	1
12	0	2
13	0	1
14	0	3
15	0	2
16	1	1
18	0	2
19	0	2
21	0	1
23	1	1
46	0	3
49	0	1
Total No.	5	27
Per cent	4.8	26.3

In order to test the susceptibility of both groups of chicks to infectious agents, the remaining chicks from each group were divided into three lots. One lot was exposed to Pseudomonas sp. by putting the culture in the water, the second lot was exposed to *Pasteurella multocida* by water contamination, and the third lot to a mixed

TABLE 2—Hemoglobin and Differential Leukocyte Counts of Chicks

Hb. ave. 50 chicks	Control 7.6 Gm./100 ml.	TSBOM 7.8 Gm./100 ml.
Large lymphocytes	31.72	45.20
Small lymphocytes	19.36	24.40
Monocytes	16.32	5.84
Eosinophils	2.64	1.36
Basophils	3.08	1.80
Myelocytes	2.92	1.56
Stab	0.68	0.80
2 segment	10.60	8.32
3 or more segments	12.60	10.76

From the Department of Veterinary Science, North Dakota Agricultural Experiment Station, Fargo.

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The authors express their appreciation to Armour's Hatchery, Fargo, N. Dak., for the chicks used in this investigation.

coccidiosis culture by feed contamination. The death losses during the following two weeks are shown in table 3.

TABLE 3—Susceptibility of Chicks to Infectious Agents

	Pseudomonas exposure	Pasteurella exposure	Coccidiosis exposure
No. controls exposed	32	31	33
No. TSBOM-fed chicks exposed	25	25	25
No. controls died	0	0	0
No. TSBOM-fed chicks died	2	5	2

One of the outstanding symptoms of the chicks fed TSBOM was leg weakness caused by lack of rigidity of the leg bones. These bones were so pliable that they could be bent to right angles without breaking.

Some of the birds presented hemorrhages in the muscles and on the mucosa of the intestines, but the tendency to hemorrhage was not as pronounced as it was in cattle and sheep.

There are several points which are of interest in these experiments. The leg weakness was identical to that presented by many chicks and poults submitted to this laboratory in the spring of 1952. This may have been caused by the feeding of toxic meal in the mash.

The lymphocyte counts of the control chicks averaged 51.08, while the TSBOM-fed chicks averaged 69.60. This tends to be more like the reaction of cattle to TSBOM than sheep.[1]

The higher death loss of the TSBOM-fed chicks to exposure to three common disease-producing agents indicates that the toxicant decreased the resistance of the birds to disease.

SUMMARY

Soybean oil meal that is highly toxic to cattle may at times be toxic to chicks as shown by higher death loss, growth failure, and decreased resistance to disease.

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A Condition in a Boxer Resembling Hodgkin's Disease

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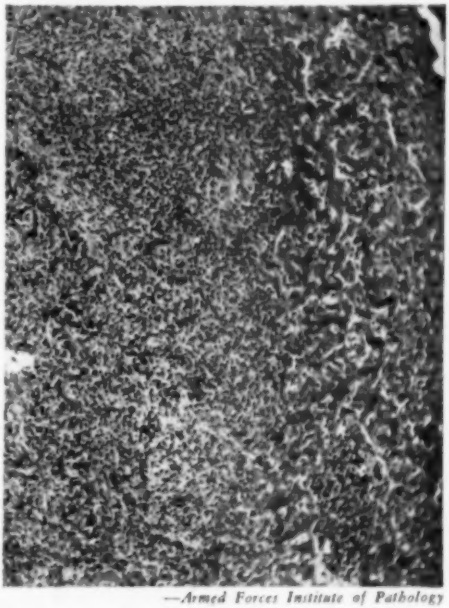
On April 29, 1952, a 15-month-old female Boxer was presented in an emaciated condition. She had been losing weight over the last three weeks; her appetite was fair to poor, and she was listless, coughed, had exaggerated breathing, and intermittent diarrhea. Four months previously, when given a booster distemper vaccination, she had appeared to be in good health.



—*Armed Forces Institute of Pathology*

Fig. 1—Liver, showing masses of reticulum cells crowding the hepatic cords. x 75.

The examination showed a temperature of 102.8 F.; pulse, fast and shallow; respiration, deep and primarily costal; mucous membranes of the mouth—pale, of the sclera—a sallow white; the skin inelastic; and the hair dry. Silent areas were detected over the posterior lobes of both lungs. The liver was easily palpated. No enlargement of the external lymph nodes was noticed.

No diagnosis was made. Only histoplas-

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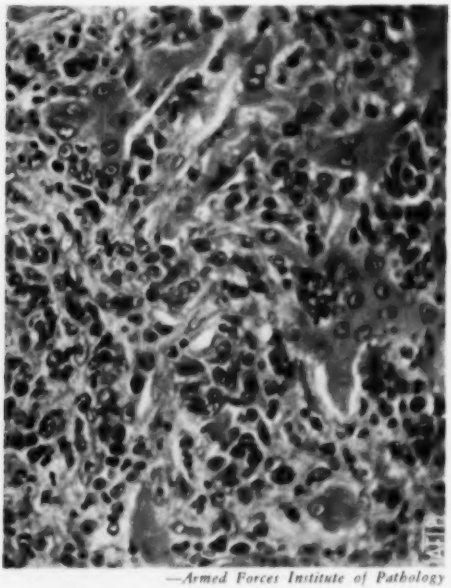
mosis or toxoplasmosis were considered probable at the time.

Upon euthanasia and autopsy, evidence of starvation was revealed and most of the organs appeared dehydrated. The liver was



—*Armed Forces Institute of Pathology*

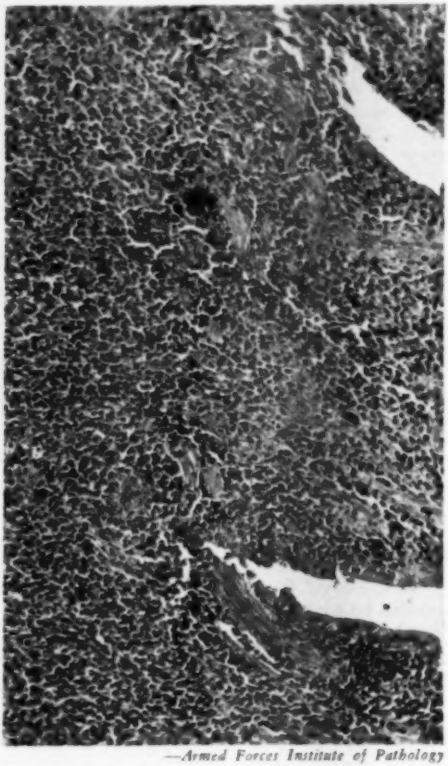
Fig. 2—Liver, showing reticulum cells and a few hepatic cord remnants. x 395.

enlarged, deep purple, and contained about 30 pea- to marble-size, yellow-grey, solid, caseous appearing nodules. On cut surface, many more of these nodules were seen. The lungs were similarly affected but the nodules were larger and coalesced into masses the diameter of an orange. The mesenteric and mediastinal lymph nodes had not changed in appearance or consistency.

Suspecting toxoplasmosis, twin samples were sent to the University of Pennsylvania School of Veterinary Medicine and to the Armed Forces Institute of Pathology. The University's report agreed with the following report from the Armed Forces Institute of Pathology:*

Liver.—Portions of the liver parenchyma have been replaced by masses of reticulum cells, multinucleated giant cells, eosinophils, and fibrous connective tissues (fig. 1). No evidence of fungi or microörganisms is recognized in the section. Multinucleated giant cells and eosinophils are quite prominent. Mitotic figures are numerous and occasional hepatic cords are recognized within these areas (fig. 2).

Lungs.—Most of the pulmonary parenchyma within the sections has been replaced by masses similar to those described in the liver (fig 3). They are comprised of bizarre, large reticulum cells, multinucleated giant cells, eosinophils, and connective tissues. Several cells are observed which



—*Armed Forces Institute of Pathology*

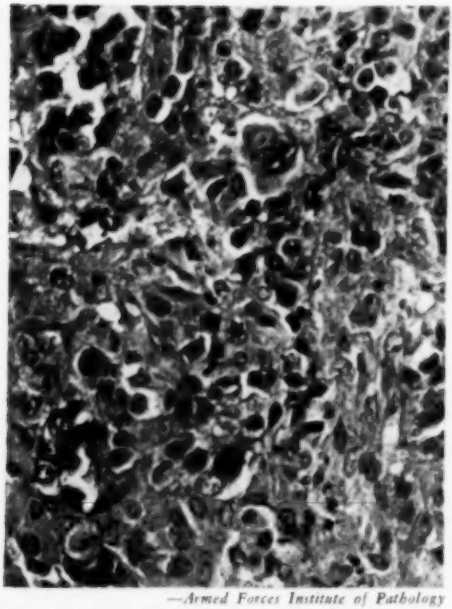
Fig. 3—Lung, with masses of reticulum cells replacing the pulmonary parenchyma. x 125.

fill the criteria morphologically for Reed-Sternberg cells (fig. 4). These cells contain an abundant cytoplasm, large nuclei with very prominent eosinophilic nucleoli. Mitotic figures are quite numerous.

Diagnosis.—The diagnosis was Hodgkin's disease, canine; Hodgkin's sarcoma, canine.

Comment.—This is not an unequivocal case of Hodgkin's disease, as doubt still exists in the minds of many as to whether this entity exists in animals. Also, the

*The laboratory diagnoses were made by Col. R. M. Thompson, U.S.A.F.(M.C.) and Dr. H. M. Martin, University of Pennsylvania.



—*Armed Forces Institute of Pathology*

Fig. 4—Lung, showing Reed-Sternberg cells. x 469.

numbers of the multinucleated giant cells which fulfill the criteria of the Reed-Sternberg cell are very few, as compared with the large number of these cells. In an unequivocal case of Hodgkin's disease in man, at autopsy no difficulty is experienced in finding Reed-Sternberg cells. However, this case fulfills more of the criteria than some that have been published as Hodgkin's disease in the dog. It is indeed unfortunate that no sections of lymph node were available for examination.

Ergot Poisoning in England

In September, 1952, 3 yearling heifers suddenly became lame. They were apparently normal except for swelling of their limbs from the midcannon region to the coronet. One hind limb was affected in 1 heifer, both hind limbs in the second, and all 4 limbs in the third. The affected regions were sensitive, cool to the touch, firm but not edematous, and moist with exudate but without odor. Nine other heifers and 10 cows in the lot were not affected. All had been grazing on a marshy pasture for eight weeks. The condition resembled cellulitis (grease heel) of the horse.

They were given symptomatic treatment, kept in a clean, dry stall, and the other animals were moved to a new pasture. Thirteen days later, the first 2 heifers were improved and practically normal except for dandruff on the affected regions. The third heifer was destroyed because of extensive sloughing of the skin on all four limbs, complete avulsion of the hoofs on the hind limbs and impending avulsion in the forelimbs. However, when forced, she still could walk. Ergot-infected rye grass was found in the pasture.

Two other, similar outbreaks were reported in 1952 and four in 1947. The pastures on one affected farm were found to be heavily infested with ergot on September 29. It was the same on October 6, but on October 8, after a frost and a heavy rain with a strong wind, the sclerotia of ergot could scarcely be found. It had apparently been removed by the storm.

Young cattle are more susceptible to this poison than older cattle. The necrosis and gangrene invariably affect the hind limbs first. A tucked-up abdomen in some cases suggests that there may be a similar constriction of the splanchnic arterioles. This is further indicated by subsequent unthriftiness in many animals that show no other symptoms.

Ergot is reported to contain at least five alkaloids, only three of which are toxic when taken by mouth. The chief one is ergotoxine which causes constriction of the arterioles in the splanchnic area as well as in the limbs. One hundred grains of ergot sclerotia fed daily for ten days to adult cattle is said to produce charcteristic symptoms. As a control measure, it is suggested that affected pastures be adequately grazed during the summer to prevent the development of blossoming heads. When this is not possible, the pastures and other affected areas should be clipped.—*Vet. Rec., March 7, 1953.*

Benefits from Brucellosis Clean-Up.—Watonwan County, in southern Minnesota, started effectively eradicating brucellosis in 1941 while the five surrounding counties have done little about it. Since then the latter five counties have had an incidence of human brucellosis six times that of Watonwan County.—*Prairie Farmer, May 16, 1953.*

Clinical Report on the New Antibiotic, Erythromycin

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ERYTHROMYCIN, the newest of the antibiotics, is the product of an actinomycete isolated from a sample of soil of Panay Island in the Philippines. It has been identified as a strain of *Streptomyces erythreus* (Waksman) (Waksman and Henrici).

Erythromycin is effective *in vitro* against a wide variety of gram-positive and some important gram-negative organisms (Hemophilus, Brucella, Neisseria).[1-3] Preliminary tests indicate a definite effect on the gram-positive bacterial flora of the intestine, tending to remove Clostridium organisms from the feces.[2] It has also been shown that there is no cross resistance between erythromycin and all other antibiotics. Organisms which have developed resistance against penicillin have shown no resistance to erythromycin.[2]

Early clinical reports from the medical profession indicate the drug's rapid action in combating infections of the respiratory organs, tonsils, and throat. Follicular tonsillitis and human pyoderma infections have been described as readily responsive to erythromycin.[2]

Heilman *et al.*[2] reported after extensive research that erythromycin is concentrated in the liver (an important item, since many canine diseases affect the liver) and may also be found in quantity in the bile. It is also diffused into the vascular supply of the placenta, and into ascites and pleural fluid exudates. It has not been recovered regularly from spinal fluid. It is excreted mainly in the stool and also in urine.

In veterinary clinical use, we have observed no toxic reactions from the administration of erythromycin. It has been reported that dogs have received doses of 50 to 100 mg. per kilogram of body weight for more than three months, yet when submitted for necropsy, the viscera was found to be normal.[5] Two cats treated with erythromycin at 200 mg. per kilogram of body weight per day showed no loss of vestibular function (postrotational nystagmus normal) or auditory damage after twenty-eight days.

DISTEMPER (ENCEPHALITIC) AND ERYTHROMYCIN THERAPY

The following are a few of the interesting case histories where erythromycin has been employed:

Case 1, Distemper (Encephalitic Type).—An 8-month-old male Boston Bull Terrier, weighing 13 lb., was sick two days. The sclera and conjunctivae were heavily injected; the feces were bile- and blood-stained, and the animal had occasional diarrhea, complete anorexia, and a temperature of 103.2 F.

The treatment consisted of erythromycin, 600 mg. twice a day orally. Within twenty-four hours, the temperature had dropped to 100.2 F. After seventy-two hours, the stool became firm, the animal began to eat and appeared much brighter. The sclera retained the highly injected appearance for five days after beginning treatment, then it slowly cleared and appeared normal about the ninth day. The animal, under constant supervision for five weeks following apparent recovery, remained normal in every respect.

Many of the distemper cases seen in Baltimore City are of this type, and the death rate has been very high. This form of distemper has been termed the encephalitic type because most of the victims develop convulsions at some point during the course of the disease. Previous routine therapy, consisting of penicillin, homologous serum, the sulfonamides, terramycin, streptomycin, or a combination of these drugs, has been of little or no benefit.

Case 2, Distemper (Encephalitic Type).—A 2-year-old, 72-lb., female Boxer was due to whelp in seven days when she was presented for treatment. The symptoms were similar to those of the Boston Terrier (case 1) with the addition of a slight purulent nasal discharge. Both sclera and conjunctivae were very red, and the dog had had complete anorexia for three days,

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The author is indebted to the Upjohn Company, Kalamazoo, Mich., for supplying the erythromycin used in these cases.

severe blood-tinged diarrhea, and general weakness and inappetence.

Erythromycin therapy was instituted with no supportive treatment. The dosage schedule was 600 mg. of erythromycin orally every eight hours. The temperature on admission was 102.6 F., and it dropped the following day to 99.4 F. On the fourth day of treatment, the bitch began to whelp but, due to uterine inertia, all the pups had to be extracted with forceps. Two of the pups did not survive the ordeal; the remaining 7 appeared healthy. It has been pointed out that erythromycin readily diffuses the placental circulation, perhaps aiding the pups in this instance. Erythromycin was administered for two days following parturition, then the bitch was released for home care. Upon discharge from the hospital, all that remained of the symptoms was diffuse scleral injection. This had disappeared four days following dismissal. The animal was examined at weekly intervals along with the pups, and five weeks following the attack, all appeared normal.

Case 3, Distemper (Encephalitic Type).—A 5-month-old female Chihuahua, weighing 3 lb., was presented with symptoms similar to those of the other affected animals. The temperature on admission was 104.6 F. Erythromycin, 100 mg. three times daily, was given orally. The following day, the temperature was 100.6 F. All symptoms of diarrhea and inappetence disappeared and the animal was released from the hospital on the fourth day. Two weeks following initiation of treatment, the dog appeared normal.

Other Distemper-Encephalitis Cases.—Seventeen other dogs, closely resembling the cases described, were treated with the same satisfactory results. However, the cases were selected for treatment. Results were generally unsatisfactory when the treated animal had displayed prior convulsions (even slight "mouth" convulsions), when the animal appeared dumb, or demonstrated any other neuropathology such as St. Vitus' dance or paralysis. Several animals were selected for treatment only to go into convulsions twenty-four to forty-eight hours following initiation of erythromycin therapy. Since there is no accurate method of determining whether an animal will develop convulsions during the course of this disease, extreme guarded prognosis is given. The clients are advised that the dog may die, but we try to judge the animal after treating it for forty-eight hours. Most animals will show a change for better or worse in that time but for the few which do not we advise the owner not to give up until a break is seen.

The disease affects individual animals differently, so the benefits from any treatment may vary in another animal similarly affected. The disease itself may be regarded as acute, because most of the affected animals either demonstrate convulsions or other serious nervous pathology or they are recovering within four to six days following the first severe symptoms. Several treated animals have recovered sufficiently to send home within seventy-two hours. The clearing of the reddened sclera is one of the best signs that the animal is improving.

St. Vitus' dance has affected approximately 5 per cent of the affected animals. This same percentage has held also for the encephalitic type of distemper. Contrary to some opinions, we have found that the occurrence of encephalitis-distemper does not predetermine chorea.

DISTEMPER PNEUMONIA AND ERYTHROMYCIN THERAPY

Case 1, Distemper (Chronic Pneumonic Type).—A male Cocker Spaniel, 15 weeks old and weighing 7 lb., was submitted in an emaciated condition, the eyes and nose mucopurulent, stools normal, appetite poor, and a temperature of 102.8 F.

The animal had been sick for two weeks prior to being presented for treatment for "a bad, lingering cold." Congestion and râles were detected in both lungs. Treatment consisted of 300 mg. orally of erythromycin daily for five days in divided doses. At the end of this time, the animal was apparently normal, had a good appetite, was lively, and respiratory râles were no longer detectable.

Case 2, Distemper (Acute Pneumonic Type).—An 8-month-old male mongrel, weighing 23 lb., had been ill four days. When presented for treatment, he exhibited all the classic distemper-pneumonia symptomology, with both lungs demonstrating harsh moist râles, plus a yellowish green nasal discharge.

Within seventy-two hours of treatment with 600 mg. of erythromycin orally, twice a day, the animal appeared brighter, the lungs sounded clearer, and the nasal exudate changed to a watery white secretion. The nasal exudate was absent after the sixth day. Coughing gradually decreased. The animal was returned home on the sixth day and appeared normal two weeks later.

Twenty-six consecutive cases of distemper-pneumonia have been treated with equally good results.

ERYTHROMYCIN FOR OTHER DISEASES

This drug has been employed against pyometritis, acne, pharyngitis, and other routine infections with results similar to that of penicillin. In one case, a 3-year-old female cat weighing 10 lb., severe attacks of moist eczema occurred on the abdomen. When presented for treatment, the mouth as well as the lower abdomen was involved. The condition around the mouth closely resembled the membranes of a calf's throat when infected with diphtheria. The entire gum area was ulcerated revealing the roots of some of the upper teeth. An anaërobic culture of skin scrapings near the mouth revealed a heavy growth of hemolytic *Staphylococcus aureus*, a moderate number of *beta* hemolytic streptococci, and a light growth of *Neisseria catarrhalis*. The latter organism has been incriminated in cases of human catarrhal pneumonia and a doubtful association with other respiratory infections. No explanation can be given for its presence here. The animal was treated with erythromycin, 100 mg. orally twice a day for seven days, and the condition gradually abated.

Erythromycin administration differs from that of other antibiotics in that it may be given orally. However, this is an advantage for the treatment of out-patients.

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Possible Hypodermic Insecticides

The Bureau of Entomology, U.S.D.A., has done some preliminary experimenting in ways of saving the huge loss of meat and milk caused by insect pests. Of five insecticides injected subcutaneously in cattle at the Oregon Experiment Station, lindane alone was effective against deer flies and mosquitoes. The insecticide carried through the blood stream would, after the eighth hour, kill deer flies on the cattle for two weeks. Sixty or 70 per cent of the mosquitoes were killed for eighteen to twenty-one days after the injection, and the cattle were kept free from horn flies for about thirty days.

At the Kerryville, Texas, laboratory, three of the insecticides—lindane, aldrin, and dieldrin—were found capable of killing cattle grubs without apparent toxic effects on the animal. Yearlings were injected four times at twenty-eight day intervals, commencing at the first sign of grubs under the skins of the back. As the grubs begin to feed on the flesh they automatically dose themselves and die. However, some were able to continue their normal life cycle, cutting through the skin and dropping to the ground to pupate. Dieldrin was injected at the rate of 25 mg. per kilogram (about ¼ oz.), while the dose for aldrin and lindane was twice that (about ½ oz).—*U.S.D.A.*

Gossypol Not Toxic to Pigs.—Gossypol, the substance found in cottonseed meal which is toxic to some animals, was not toxic to growing pigs. Pigs were fed for sixteen weeks on a 33.0 per cent ration of cottonseed meal, of which 0.024 per cent was gossypol. They did not gain as well as pigs on soybean meal but exhibited no symptoms of toxicity.—*Rep., Chief, B.A.I., 1952.*

Swine Pox Transmission by Lice.—Numerous tests show that swine pox is transmitted by *Haematopinus suis*. Outbreaks in a louse-infested herd disappear within eight days after delousing.—*Vet. Bull., Nov., 1952.*

Studies on Infectious Atrophic Rhinitis of Swine. I Isolation of a Filterable Agent from the Nasal Cavity of Swine with Infectious Atrophic Rhinitis

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IN ESTABLISHING the basic plan of research on infectious atrophic rhinitis of swine, it seemed desirable to study the transmissibility of the disease to determine the etiological factor or factors concerned. The results reported here represent some of the information obtained.

A crude suspension of pooled turbinate material was prepared from 2, 5-month-old pigs from a litter infected with infectious atrophic rhinitis. One of these pigs harbored nasal trichomonads while the other did not. A bacteria-free filtrate was prepared from a portion of this crude suspension by filtration through a No. 02 Selas filter at approximately 8 lb. of vacuum.

In a litter of 5 pigs 8 days old, each pig was inoculated intranasally with 2 ml. of the crude suspension; a comparable litter of 5, 9-day-old pigs each received an inoculation of 2 ml. of the filtrate intranasally. Each litter was housed in a separate isolation room. The same individual cared for both litters.

At approximately 9 weeks of age, the two litters were autopsied. The lesions observed in the nasal cavities of the pigs in the litter receiving the crude turbinate suspension can be summarized briefly as ranging from a moderately severe to a slight atrophy of the ventral turbinate, with varying degrees of involvement of the other nasal cavity structures. The lesions occurring in the pigs receiving the filtrate preparation consisted of considerably milder, although definite, atrophy of the ventral turbinate. Four pigs of comparable breeding had normal nasal cavities.

This finding prompted an investigation into the possibility of a filterable agent having produced the slight, though definite, atrophy of the turbinate bones. A portion of the turbinate mucosa was collected from each of the 5 pigs that had received the filtrate inoculation. This material was filtered through a No. 02 Selas filter at approximately 8 lb. vacuum. A portion of the final filtrate was cultured on blood agar and found to be free of aërobic bacteria. This filtrate was the inoculum used to inoculate 12, 8-day-old chicken embryos. These embryos were inoculated with 0.25 ml. of filtrate into the allantoic sac. One embryo died on the seventh day postinoculation and another died on the tenth day. The 2 dead chicken embryos had a severe pericarditis and some degree of hyperemia of the embryo and yolk sac. When the remaining eggs were autopsied ten days postinoculation, 1 had a mild pericarditis and anasarca, and 4 embryos had thickened chorioallantoic membranes. The remaining 5 embryos appeared normal. At the present time, this agent has been passaged in chicken embryos ten times.

Isolations producing similar changes in chicken embryos have been made from a pool of turbinate material from 4 pigs with experimental infectious atrophic rhinitis and on 6 occasions from individual pigs with experimental infectious atrophic rhinitis. Similar isolations have been made from 4 out of 4 field cases of infectious atrophic rhinitis.

As a check to determine whether this agent was present in the nasal cavity of all swine, normal turbinate filtrates were prepared. One composite sample from 4 pigs of the Veterinary Research Institute's breeding herd failed to show the presence of this agent. Three subsequent animals have likewise proved negative. However, in contrast to these findings are two field herds, with apparently negative histories for infectious atrophic rhinitis, from which an apparently identical agent has been isolated. Additional studies on these two

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The author acknowledges the assistance of Dr. M. S. Hofstad of the Veterinary Research Institute in the filtration and propagation of this agent. It is through the cooperation of Dr. Earl Hubbard of the Veterinary Research Institute that field material has been made available for examination.

herds are planned to determine whether they are actually free of infectious atrophic rhinitis.

The characterization of this agent is far from complete but several facts have been observed. It was found that the infective agent can be filtered through a No. 02 Selas filter; however, there is a marked reduction in the titer of the agent if a No. 03 Selas filter is used. Filtration of a known positive fluid through a Seitz filter fitted with a sterilizing pad rendered the filtrate noninfective for chicken embryos. This same effect was noted when the known positive fluid was filtered through a Mandler filter of 7-lb. bubbling pressure.

In chicken embryos, a slightly higher incidence of infection resulted when the yolk sac route of inoculation was used in lieu of the allantoic sac route. A single trial of the chorioallantoic membrane route of inoculation failed to produce any lesions.

It was considered advisable to determine the effects of several of the antibiotics upon this agent. The antibiotic agents were mixed with the inoculum and allowed to stand at room temperature for thirty minutes prior to inoculation. It was found that the addition of 1,000 or 10,000 units of the potassium salt of crystalline penicillin G, or 50 units of bacitracin, to each milliliter of inoculum produced no alteration in the pattern of death in the chicken embryos. However, streptomycin calcium chloride complex added at the level of 50 mg. per milliliter resulted in protection of 3 out of 12 chicken embryos. Aureomycin hydrochloride with sodium glycinate was added to one inoculum at the rate of 50 mg. per milliliter and protected 10 out of 12 chicken embryos. The addition of 5 mg. per milliliter of crystalline terramycin to the inoculum protected 12 out of 12 inoculated chicken embryos.

In working with this agent in more than 2,000 chicken embryos, it has become apparent that it ordinarily does not produce death of the chicken embryo prior to the fourth day. The higher titer inoculums tend to produce death earlier than the lower titer ones. In fact, very low titer inoculum may fail to cause death of the chicken embryo but still produce definite lesions. In none of the titration trials performed to date has there been a sharp end point.

The outstanding lesions produced by this agent in chicken embryos consists of myocarditis and pericarditis. In embryos dead after the seventh day postinoculation, these lesions are readily apparent and are usually accompanied by definite areas of focal necrosis in the liver. Chicken embryos dying on the ninth or tenth day postinoculation often have so severe a pericarditis that the cellular exudate in the pericardial sac can be picked off with forceps. A less severe pericarditis may be evidenced by the accumulation of an opalescent pericardial fluid that has been known to attain a volume of 1.5 ml. The chorioallantoic membrane may be thickened and show plaque formation.

Chicken embryos dying in the earlier periods almost always show an intense, diffuse hyperemia associated with a moderate yolk sac hyperemia, and do not show the severe heart and liver changes that are observed in embryos dying at later stages. Almost all chicken embryos that die have hyperemia of the kidneys. Other lesions that may occasionally be observed in the later deaths are ulceration of the skin in the occipital region or other areas of the body and an anasarca of the embryo. In 1 chicken embryo, a joint abscess was present. Many of the chicken embryos appeared stunted. When the surviving chicken embryos were autopsied on the tenth day postinoculation, many had some degree of heart involvement. Edema of the heart muscle was frequently observed in these chicken embryos.

No lesions were noted in 6- to 8-week-old Carworth Farm Cf1 and Webster strain white mice inoculated intraperitoneally and by inhalation of amnioallantoic fluid while under anesthesia. These mice were examined eleven days postinoculation. Guinea pigs inoculated intraperitoneally exhibited no lesions when examined a week later.

In examining smears of the chicken embryo pericardial exudate stained with Giemsa's stain, it has been observed repeatedly that very minute, faintly staining coccoid rods, with either a bipolar tendency or a pairing tendency, are usually present in large numbers. These objects were less numerous in other chicken embryo fluids and tissues examined. Macchiavello's stain imparts a decided blue to these objects indicating they are probably not Rickettsia. While these objects are sometimes seen in the cytoplasm of the cells, the majority

of them occur extracellularly. The appearance of these objects is suggestive of the pleuropneumonia group of organisms.

It was recognized that this agent resembled the one causing chronic respiratory disease in chickens. Therefore, a group of 10-day-old chicks was inoculated intratracheally, intranasally, by way of the infraorbital sinus, and by way of the conjunctival sac. These birds showed no respiratory symptoms and were completely normal when autopsied three weeks later.

Work is currently in progress to determine the significance of this agent as a factor in the production of infectious atrophic rhinitis.

SUMMARY

When untreated suspension of turbinate material from 2 swine infected with infectious atrophic rhinitis was inoculated intranasally into a litter of 8-day-old pigs, it reproduced the disease. A filtrate prepared from this suspension, when inoculated intranasally into a litter of 9-day-old pigs, also produced definite, although less severe, atrophy of the turbinates. A filtrate prepared from the turbinates of these filtrate-infected pigs produced heart and liver lesions in inoculated chicken embryos. This appears to be the first report of the occurrence in the swine nasal cavity of a filterable agent producing these definite heart and liver lesions in chicken embryos.

This agent has been recovered from four field herds infected with infectious atrophic rhinitis and from two field herds with apparently negative histories of infectious atrophic rhinitis. It has been isolated from several pigs with experimental infectious atrophic rhinitis, although it has not been recovered from the Veterinary Research Institute's breeding herd. This agent passes a Selas No. 02 filter satisfactorily, although it does not pass a Seitz sterilizing pad or a Mandler filter of 7-lb. bubbling pressure.

Penicillin and bacitracin had no observable action against this agent, streptomycin had a mild inhibiting effect, aureomycin had a severe inhibiting effect, and terramycin had a complete inhibiting action under the conditions employed.

Numerous very minute coccobacillary objects are visible in smears of embryo pericardial exudate stained with Giemsa's stain. These objects are usually extracellular and do not appear to be Rickettsia. Investigation of this agent is being continued to determine its relationship to infectious atrophic rhinitis.

Newcastle Disease Conjunctivitis

Newcastle disease infection was first reported in man in Australia in 1943. The first case reported in the United States was in April, 1947, when a veterinarian accidentally splashed the virus into his eye. The virus was isolated from his eye washings. Until recently, only 5 other cases had been reported in the United States.

Recently, 40 cases of conjunctivitis occurred among 90 workers on the eviscerating line of a poultry packing plant in Minnesota. No cases developed among 200 other employees in the plant. The evisceration of chickens commenced on February 5, 1952, and continued until March 11. The first case of conjunctivitis occurred February 7 and, by March 13, there were 24 cases. After handling turkeys for two weeks, the evisceration of chickens was again commenced about March 27 and continued until April 6. Between March 28 and April 5, 16 more cases of conjunctivitis occurred. The symptoms were irritation, lacrimination, redness and swelling of the conjunctiva but no involvement of the cornea; photophobia was not common. Usually only one eye was involved. Symptoms lasted three or four days but in one case they lasted for three weeks. The company's records for 1950 showed 10 cases of conjunctivitis, also in workers on the eviscerating line. Three persons had suffered recurrent attacks in three months, five months, and eight months, respectively. Newcastle disease virus was recovered in 4 of the 10 cases studied.—*Pub. Health, June, 1952.*

Newcastle Disease in England

Newcastle disease, which had appeared and been stamped out in England several times between 1926 and 1933, was met by new regulations when it again appeared in 1947. It usually had made its first appearance in flocks which were fed swill, probably containing portions of chicken carcasses imported from Europe. During the war few chickens had been imported. The new regulations called for the immediate slaughter of all diseased and ex-

posed birds, restrictions on the marketing and movement of poultry, the importation of eviscerated poultry only, and heat treatment of the imported carcasses.

Vaccination is recognized as a valuable means of reducing loss where the disease is enzoötic but contraindicated where eradication is desired. Even if the vaccine is incapable of producing the disease, it may mask it so that a partially protected bird, without showing symptoms might harbor the infection and pass it along to unprotected birds. Dead vaccines seem not to produce a satisfactory immunity and live vaccines may become too virulent when used. If eradication had to be abandoned, vaccination would have to be more seriously considered.—*World's Poult. Sci. J., April, 1952.*

Psittacosis Diagnostic Laboratory.—According to Dr. James Steele, any bird suspected of having died of psittacosis should be wrapped unopened in a towel, soaked in phenol or lysol, frozen, wrapped in dry ice and put, preferably, in a metal container and sent to Dr. Robert Kissling, Virus Research Laboratory, United States Public Health Service, Route 3, Box 436, Montgomery, Ala. The towel should be disinfectant-soaked to protect the laboratory personnel when the package is opened. —*All Pets Mag., April, 1953.*

Research Needed in Shipping Fever

At a recent conference on shipping fever at Sioux Falls, S. Dak., Dr. E. D. McCauley, veterinarian at the stockyards in Sioux City, Iowa, stated that shipping fever during the past year was just as prevalent as in recent years and "much more confusing." He further stated that "Since the advent of sulfas and antibiotics, treatment of individual cases has been much more satisfactory but other angles must be considered for real progress against the disease. Bringing western calves into the Middlewest and the East might be compared to bringing Eskimo children into our environment. Neither possesses immunity against our respiratory viruses nor against our secondary invaders."

He stressed the need for better immunizing agents and more considerate treatment, because many animals come to the stockyards daily which are evidently overtreated with sulfonamides and antibiotics. "Many are chronic bloaters and others have an almost sterile watery diarrhea." It has long been the opinion of many veterinarians that shipping fever starts with a virus and is soon complicated with secondary invaders of many types. He expressed the hope that research would soon prove or disprove that opinion.

Comparative Study of Canine Distemper and a Respiratory Disease of Man

In 1941 a new form of an epidemic pulmonary disease was reported in babies, especially the premature and very young infants. It varied in severity from a mild cough and sneeze to a fatal pneumonitis. It was highly contagious, especially in the infant wards of hospitals. The distinctive pathological changes were: a proliferation and destruction of pulmonary epithelium; a mononuclear exudate; and pulmonary cell inclusion bodies.

This syndrome has been observed sporadically and may occur not infrequently in a mild or inapparent form in older children.

The epidemiological, clinical, and pathological similarity of this condition to canine distemper is remarkable. Therefore, *in vivo* and *in vitro* serological tests were undertaken which further indicate a close relationship between the human and the canine diseases. Infection in living chicken embryos by the canine virus have been neutralized by human serums and by human *gamma* globulin. The human disease is now proved to be due to a specific virus but more research is required before its relationship to the canine distemper virus is fully established.—*Pediatrics, Jan., 1953.*

The *Dairy Goat Journal* (April, 1953) reports that in India when a new well is needed, a goat is given salt, then left in the area without water. The well is drilled where the thirsty goat starts scratching and digging.

Dairy calf mortality has been reduced by placing the new calves in clean, dry quarters under a heat lamp. Colostrum is fed for two or three days, then is mixed with milk for another week.—*R. V. Jessup, D.V.M., Glendale, Calif.*

Osseous Pachymeningitis in a Dog with Radiographic Demonstration

J. H. SAUTTER, D.V.M., Ph.D., and
FRANCIS A. SPURRELL, D.V.M.

St. Paul, Minnesota

The patient, a 4-year-old Saint Bernard male, was referred to the veterinary clinic of the University of Minnesota by a veterinarian of this community. The dog had been lame in the left rear leg for about a month previous to admission. When presented to the clinic, the dog was apparently in poor physical condition. General depression, anorexia, and constipation were manifest. The animal seemed unable to extend the left hind leg and was hesitant in placing weight upon it. Further examination revealed atrophy of the gluteal muscles on the left side. The left patellar reflex was normal. The dog was unable to walk upon a smooth floor but could walk over a rough surface, indicating some adductor deficiency. Efforts at movement demonstrated muscular weakness and tiring with minimum exercise.

Radiological examination of the vertebral column revealed no decreased intervertebral spaces, spondylarthritis, fractures, or dislocations. There was present a slightly visible increased density (fig. 1) which apparently encased the spinal cord. This was interpreted as an extra-osseous calcification most likely involving the dura mater. Ossifying pachymeningitis was considered as a possible pathological lesion. In view of the extensive atrophy, together with the lesion demonstrated in radiograph, an unfavorable prognosis was given and permission for euthanasia was obtained.

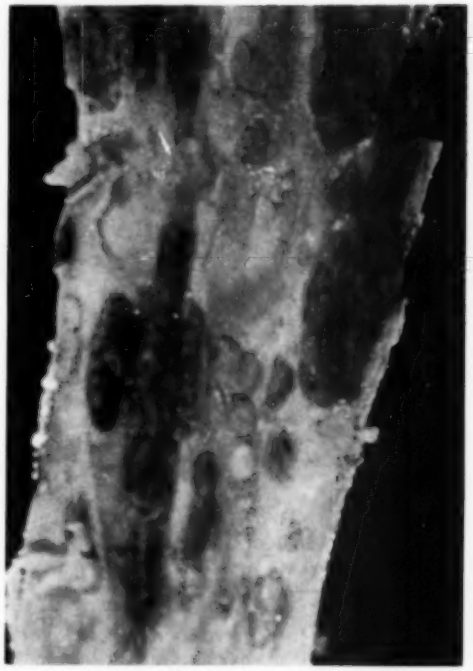

Fig. 2—Bony Plaques in the dura mater.

Necropsy Findings.—A catarrhal gastroenteritis was present. The liver was light

Fig. 1—Radiographic demonstration of calcification of dura mater.

Paper No. 2964 scientific journal series, Minnesota Agricultural Experiment Station, St. Paul.
From the School of Veterinary Medicine, University of Minnesota, St. Paul.

yellow and slightly fibrous when cut with a knife. Microscopically, the portal triads and lobules were enveloped with coarse-appearing, fibrous connective tissue. The liver cells were undergoing fatty metamorphosis and the cords were atrophic. Pigment-laden macrophages were numerous. The spleen had a nodule on the surface, 4 cm. in diameter, which was composed of lymph follicles and dilated sinusoids.

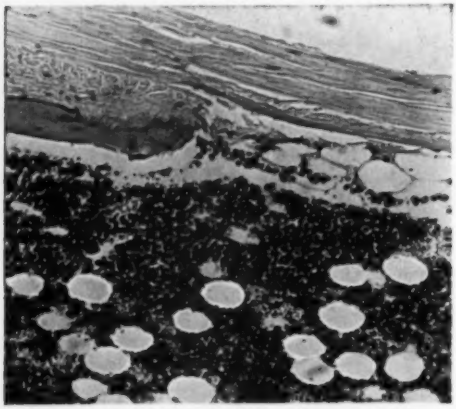

Fig. 3—Cross section of plaque shown in figure 2. Note bony ring and bone marrow.

The heart was dilated, flaccid, and the right auricle contained numerous heartworms (*Dirofilaria immitis*). The lungs were congested and numerous microfilaria were seen in blood vessels. Some of the vessels were ruptured and a granuloma had formed around them.

The spinal canal was opened and revealed calcified masses on the dura mater over the entire lumbar area but ending abruptly in the thoracic region. The osseous plaques were more numerous (fig. 2) on the ventral portion of the dura but only a few were visible with the dura and cord *in situ*.

Histopathological examination of the decalcified plaques on the dura showed them to be composed of a bony shell containing normal-appearing bone marrow (fig. 3). Transverse serial sections were made of some blood vessels in the dura. These were found to be normal and did not appear to be involved in the bone formation. The spinal nerves appeared normal grossly but microscopically the Schwann cells were proliferating, demyelinization was slight, and an occasional fat granule cell was present.

The spinal cord was removed and found to be normal upon gross and microscopic examination.

Conclusion.—A case of osseous pachymeningitis was demonstrated radiologically. Necropsy revealed the lesion to be associated with some nervous degeneration. An additional finding of canine heartworms was made.

The Score Card of Some Epizootics

Bluetongue in Sheep.—Dr. R. A. Alexander, director of Veterinary Services, Union of South Africa, after a field survey in California, Utah, and Texas, has confirmed a preliminary diagnosis of the disease in Texas, and believes it is probably present in Utah. He had previously confirmed the diagnosis in California.

Means of controlling the disease are being studied. Being a virus disease, transmitted by biting insects, it is seasonal and is not transmitted by contact. Man is not susceptible.

In California, in 1952, flocks totaling 325,000 sheep were affected with a loss of about 15,000 animals. Many cases recovered but there was a big economic loss, because of the depreciation in wool value as well as body weight. Mature rams are said to be most susceptible.

Vaccines have been used with good results in Africa, but with different strains of the virus to deal with the preparation of an effective vaccine is difficult. The insect intermediate hosts are also being studied. A genus of Culicoides known as "sand-flies," "midgets" or "no-see-ums" is believed to be one of the carriers.—*U.S.D.A.*

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Anthrax.—During April, 1953, anthrax was diagnosed on 21 premises in ten states. Losses included 27 sheep in California, 4 cattle in Washington, 1 cow in Nevada, and 1 cow in Louisiana, and 17 cattle plus 4 hogs in six Cornbelt states. Only 1 bovine and 1 porcine case was believed caused by contaminated feed.—*U.S.D.A.*

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Vesicular Exanthema.—On May 28, V. E. was reported present in 16 states and believed eradicated in 24. Only eight states have not been affected.—*U.S.D.A.*

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Foot-and-Mouth Disease (*Aftosa*).—This

disease has reappeared in Vera Cruz, Mexico. It was noticed on May 21, serologically diagnosed on May 23, and the cattle on the ranch, about 500, belonging to four owners, were slaughtered and buried May 25. The ranch is in the zone quarantined from 1946 to 1951 and close to the location of the last outbreak in August, 1951. It is about 375 miles south of Brownsville, Texas. No cattle from that region have been eligible for importation since the Mexican-United States border was opened Sept. 1, 1952.

The border has again been closed to the importation of susceptible animals and their fresh or frozen meat products. Additional BAI veterinary personnel were immediately sent to supplement the inspection which has been maintained in Mexico since the previous quarantine was lifted. The BAI personnel of the border states have been alerted and all veterinarians in the United States are urged to be on the alert for suspected vesicular diseases of ruminants and swine. Such cases should be immediately reported to the state and federal livestock sanitary officials.

Foot-and-Mouth Disease in France

During 1952, foot-and-mouth disease is estimated to have cost France $280 million, chiefly in lost milk. At one time the disease was present on 213,000 farms. The cost of vaccines used, $8 million, about equalled the sum spent for indemnities in Britain where the slaughter method is used. —*Vet. Rec., March 28,1953.*

Foot-and-Mouth Disease Virus May Have Two Components.—A report from the Research Institute, Pirbright, Surrey, England, apparently confirms the finding, in 1943, of Traub and Pyl that the complement-fixing and infecting components of the foot-and-mouth disease (aftosa) virus differ from each other.

In a study of sedimentation properties of the infective particles when the infectivity of a preparation was reduced 99 per cent, the complement-fixation activity fell only 50 to 75 per cent. If both components are assumed to be spherical particles, the infective particle would have a diameter of about 20 mμ, the complement-fixing component about 6.5 mμ.

Foot-and-Mouth Disease Decreases in Europe

The recent epizoötic of foot-and-mouth disease (aftosa) in continental Europe is on the wane. There is a tendency to give credit for this decline to the vaccination program applied in some areas. However, this is the usual and natural development in an aftosa epizoötic. The decline is just as marked in France, where relatively little vaccination was done, as it is elsewhere. It is suggested that now is the time to introduce a slaughter and sanitation policy to completely eradicate the disease, as is done in nearby Great Britain, Norway, Sweden, and Switzerland.—*Vet. Rec., April 4, 1953.*

Care of Chinchillas

Caring for chinchillas is chiefly using common sense. They should be disturbed as little as possible, and the daily routine should be timed the same each day. First, all advanced pregnant females should be checked and, if about to litter, the males should be removed from the nest for that day, so the females may nurse their babies undisturbed before being rebred. Strange noises should be avoided as females may bite their young when disturbed. Next, a pan containing special earth should be put in each pen so the animal can take its dust bath. Its condition is indicated by the vigor in which it rolls and dusts itself.

The amount of food eaten and the droppings should be checked daily. Newborn babies should be checked three times a day for the first two or three days so they may be hand-fed if necessary. The females' mammary glands should be checked every other day for ten days after parturition, then at longer intervals. Because of their dense fur, it is well to weigh chinchillas once a month to detect those that might be losing weight for any reason.—*Am. Fur Breed., April, 1953.*

Leptospirosis in Cats

Blood agglutination-lysis tests on serum from 165 cats were all negative. There is little or no leptospirosis among cats in Hamburg (Germany) and risk of infection of human beings by cats there is negligible.—*Vet. Bull., Dec., 1952.*

NUTRITION

Johnson Grass Cyanide Poisoning

The Alabama Polytechnic Institute Veterinary Clinic reports 19 cases of cyanide poisoning in cows during the summer of 1952. In each case Johnson grass (*Sorghum halepense*) which had been stunted by the drought was responsible. It contains dhurrin, a cyanogenetic glucoside which, upon breaking down, liberates cyanide. A lethal dose of about 0.5 Gm. of cyanide may be present in 5 lb. of Johnson grass. The poisoned cows were given, intravenously, 30 cc. of 20 per cent sodium thiosulfate solution plus 10 cc. of 20 per cent sodium nitrite solution. All made rapid, complete recoveries; some within thirty minutes. One experimental cow, when fed only 1 lb. of the Johnson grass known to be poisonous, showed typical staggering and rapid breathing within thirty-five minutes.

Autopsy of fatal cases revealed only rapid bloating, which commenced just prior to death, and a cherry red venous blood when exposed to the air.

The test for cyanide was made with 5 Gm. of sodium bicarbonate and 0.5 Gm. of picric acid dissolved in 100 cc. of distilled water. A drop was placed on a blotter or filter paper, then a few drops of rumen fluid was added. A change from yellow to red in ten minutes indicated a probable lethal dose of cyanide.—*Auburn Vet., Winter, 1953.*

Antibiotics in Rumen Digestion

Most investigators report that aureomycin aids growth and digestion in young calves. However, for steers and lambs, results have been conflicting. In one investigation with yearling steers, anorexia and diarrhea developed within forty-eight to seventy-two hours after feeding aureomycin. In another experiment, yearling heifers had a reduced appetite for a few days but their daily gains were not significantly affected. When aureomycin was fed to fattening lambs, in one trial they went almost entirely off feed and lost weight, while in another they made faster and more efficient gains than did controls.

In this experiment 2, 2-year-old steers with rumen fistulas were fed ½ Gm. of crystalline aureomycin per day for fifteen days, then 1 Gm. per day for another fifteen days. As controls, the same steers were observed when not being fed antibiotics. Both continued to gain in weight and showed neither a decrease in appetite nor any digestive disturbances. The number of bacteria in the rumen seemingly increased at the ½-Gm. antibiotic level. The rate of digestion, as indicated by the removal of dry matter, crude protein, and nitrogen-free extract, also was highest at the ½-Gm. level.—*J. Dai. Sci., March, 1953.*

Notes from the American Feed Manufacturers Association Conference, May 13-15, 1953

Studies on nutrition in dogs have demonstrated that basal rations, which will maintain dogs apparently in good physical condition for periods of years, may not be adequate for reproduction. One ration consisted of 19 parts casein, 66 sucrose, 11 cottonseed oil, and 4 parts salt, plus adequate vitamins. Reproductive efficiency was increased about 100 per cent when these rations were supplemented with an animal protein such as liver or milk.—*Paul H. Phillips, Ph.D., University of Wisconsin.*

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The newborn calf is devoid of antibodies so it must immediately acquire them from the rich supply available in colostrum. Antibodies are readily absorbed through the gut wall at the first few feedings but the rate rapidly declines. The calf's store of vitamin A and D is also very low so must be provided by colostrum.

Since ergot poisoning produces vascular constriction, subclinical amounts can seriously affect milk production by restricting the mammary circulation.

Ketosis could be classified as a "fashionable disease" because it occurs principally in cows which are well fed and well cared for. It is possible that heavy grain feeding upsets the metabolism in the rumen,

leading to the formation of excessive quantities of butyric acid. Cortisone subcutaneously is of therapeutic value even in refractory cases.

To produce bloat, two factors may be involved: (1) the substance in certain legumes which partially paralyzes the rumen's receptive centers which, when stimulated, cause the eructation of gases; and (2) the absence of material sufficiently coarse to stimulate the receptive centers in spite of their partial paralysis. There are *no known agents* which can be fed to prevent the development of bloat.—*W. E. Peterson, Ph.D., University of Minnesota.*

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The synthesis of proteins within the animal body is apparently on the "all-or-none" principle. If all of the amino acids required to form a protein are not immediately available, no protein is formed and the excess amino acids are largely wasted. Since they are not stored they must be consumed shortly before required. This may explain why animals make better gains on a complete mixed feed than when the ingredients are fed separately, free choice, or otherwise.

A nutritional dermatitis of weanling pigs, with thickened skin on the legs, sides, and face, can be prevented by feeding fish solubles, milk, or green grass.

A low protein ration may be responsible for a reduction in the formation of antibodies and thus a reduced resistance to disease.—*Frank Thorp, Jr., D.V.M., Michigan State College.*

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Feeds, as a vehicle for therapeutic agents which will prevent poultry diseases, have limited justification. Certain coccidiostatic agents, such as sulfaquinoxaline 1 part to 8,000 parts of feed, have proved their ability to prevent coccidiosis. However, it should supplement, not replace, proper sanitation and management. Enterohepatitis in turkeys, and sometimes in chickens, is the other disease which can be prevented quite effectively by the addition of enheptin to feed.

Similar methods are effective in the treatment, but not in the prevention, of a few other poultry diseases, *i.e.*, sulfonamides for fowl coryza, fowl cholera, or fowl typhoid. Coryza and cholera can usually be prevented by avoiding contacts between old and young chickens but fowl typhoid is apparently egg transmitted, as is pullorum disease.

Antibiotics are of value when injected into the inflamed sinuses of turkeys but have no proved value for any disease when included in the feed.—*J. P. Delaplane, D.V.M., Texas A. & M. College.*

Veterinarians and Feed Dealers

The April, 1953, issue of the *Nutrition News Bulletin*, published by the Ralston Purina Company, deserves commendation. It is devoted to the benefits received by four parties — (1) the consuming public, (2) the livestock producer, (3) the feed manufacturer and retailer, and (4) the local veterinarian — from coöperation by the last three mentioned. It clearly indicates that while diseased animals can not utilize feed efficiently or economically, neither can they attain a maximum resistance to disease if not properly nourished. Therefore, the "practicing veterinarian and the local feed dealer operate in closely related spheres." The "failure of either to recognize the basic responsibilities of the other must eventually result in frictions to the detriment of each and the client-customer they profess to serve."

The increasing trend to medicate poultry and other species en masse is cited as a point where coöperation is needed. The intelligent use of this practice depends on an accurate diagnosis and the careful, uniform distribution of the medicant in the feed.

It warns the veterinarian against unwarranted assertions that the feed is responsible for illness and also warns the feed producer against errors in selecting the proper quantity or quality of the feed ingredients.

In summary, it states that the "present morbidity and mortality averages [of animals] must be reduced and feeding efficiency increased [by] closer harmonious relationships between the veterinary profession, the feed industry, and the client-consumer."

Anemia may be caused by a ration low in iron, copper, or cobalt and the symptoms in each case are similar.—*Vet. Sci. News, Jan., 1953.*

Fats Improve Animal Diets

The American Meat Institute reports that increasing the animal fat content of protein supplements will improve their animal feed value, and will increase feeding profits. So much oil has been extracted from vegetable proteins in recent years that the fat content of many feed meals is inadequate. At the University of Missouri, hogs fed more animal fats reached market weight in four to five months and produced a choice grade of lean pork. At a Texas agricultural experiment station, steers fed high levels of fat required about 100 lb. less feed per 100 lb. of weight than did steers on low fat levels. Experiments also indicate that small amounts of fat in the animal protein concentrate may prove important in poultry feeding.

Bacitracin Pellets for Chicks.—The subcutaneous implantation of 1,000 units of bacitracin pellets in newly hatched chickens did not affect their growth or feed efficiency, nor did it cause ill effects.—*Poult. Sci., Nov., 1952.*

Sales of Manufactured Feed Rise.—A new record was set for sales of feed manufactured for livestock and poultry—34.4 million tons—in 1952. This was the fourth annual increase and was about 27 per cent of all feedstuffs consumed, exclusive of roughage and pasture. It was 5 per cent more than in 1951 and 35 per cent more than in 1948.

In percentages, 58.8 was poultry feed; 21.0, dairy feed; 8.5, swine feed; 7.2, beef and sheep feed; and 4.5, miscellaneous. Swine feed sales dropped 6 per cent; all others gained. The greatest increase was in the southeastern states, reflecting their expanding animal agriculture, improved feeding practices, and drought conditions. —*Am. Feed Mfr. A.*

Trichloroethylene Soybean Meal Poisoning.—Montana's first poisoning in cattle with trichloroethylene-extracted soybean oil meal occurred in March, 1952. Before this meal was withdrawn and the disease brought under control, at least 20 herds were affected and approximately 300 cattle died. Six quite similar cases developed in persons drinking raw milk from affected dairy herds and two deaths occurred, but most authorities question any relationship. —*Rep., Montana Livestock San. Board, June, 1952.*

Nutritional Anemia in Baby Pigs

In a restudy of this old problem, it was demonstrated that baby pig anemia was not responsible, as is often suspected, for the scouring which is so prevalent in young pigs. It was also indicated that anemia could be prevented effectively, and most easily, by spraying the sow's udder, on alternate days until the pigs were 2 weeks old, with a solution of 4 oz. of iron sulfate in a quart of water.—*Rep. Vet. M. Res., Iowa State College, 1952.*

Antibiotics in Dairy Cow Nutrition

Cows of three dairy breeds were placed in two similar groups of 9 each to test the effect of the addition of aureomycin to the ration. A double reversal design of feeding was used with three periods of six weeks each, during which the antibiotic was fed in alternate periods. No significant differences in feed consumed, in milk produced, or in rumination and general health were observed. The antibiotic apparently was neither detrimental nor beneficial.—*J. Dai. Sci., April, 1953.*

Cobalt deficiency causes a profound anemia in ruminants but apparently has no direct relationship to hemoglobin formation in monogastric animals.—*Vet. Sci. News, Jan., 1953.*

Antibiotics in synthetic feeds are not the equal of antibodies in the sow's milk, since they apparently give less protection against such pig diseases as scours.—*Vet. Sci. News, Jan., 1953.*

Aureomycin Toxicity.—Aureomycin fed at a level of 100 mg. per kilogram of ration promoted growth in rats but was highly toxic to guinea pigs, causing death in 6 out of 9 within ten days.—*Vet. Bull., Dec., 1952.*

Apparently, goats function as brush "eater-uppers" only to the extent that they are starved to eating such coarse herbage.

EDITORIAL

No Substitute for Service

Two articles appearing in this issue caused us to reflect on a tiny pamphlet with a mighty message which was issued by the AVMA about thirty years ago. It was entitled "Nothing to Sell but His Services." It depicted the role of the veterinarian as a person with no ulterior motives, trained to give efficient, unselfish service in preserving the health of our livestock population and alleviating the suffering of our less articulate animal friends. It engendered a glow of pride in the knowledge that the far-flung, often isolated, and usually unsung efforts of veterinarians were appreciated. It tended to stimulate a better feeling of camaraderie in the profession, a feeling which helped to substitute in our vocabulary the word "colleague" for "competitor."

In those days, veterinarians were not conditioned to much public acclaim. They were still often referred to, somewhat slightingly, as "horse doctors" and since the horse population was in retreat the profession's future usefulness was often questioned. Since then, our place in the sun has been made much more secure chiefly by two developments.

The first, and most important, development was a broadened and improved service to all domesticated as well as several less domesticated species of animals. The horse doctor phase passed, but a few practitioners who specialize in equine diseases remain. There are also many who specialize in other species practice: large animal, small animal, poultry, and even furbearing animals.

Secondly, through this wider service, as well as by better intraprofessional coöperation and purposeful organization, the profession's public relations have been improved.

Veterinary medicine is now accepted as one of the three essential medical professions, albeit the smallest. The problems to be mastered by the medical and dental groups may require greater detail and skill but their efforts are applied to only one species—man—and man is a relatively constant subject. The veterinarian also indirectly serves man but he is directly concerned with patient types that are constantly shifting. Not only does the species of his patients change but also the breeds and types within the species. Since the demand for his services is usually based more on the economic than on the sentimental value of the patient, that demand can fluctuate markedly with economic trends and even with the popularity fads of animal types. Therefore, the veterinarian must be versatile and continuously on the alert for ways and means of improving his service. Then to make that service more effective, the profession must keep the public advised of these improvements.

The JOURNAL is pleased to publish in this issue two articles, one dealing with means of improving service through group practice, the other with improved public relations.

The author of the former article, Dr. V. D. Stauffer of Arvada, Colo., graduated at Colorado A. & M. in 1942, served on the clinical faculty there for four years, then was sent to Peru by the Institute of Inter-American Affairs for sixteen months. Since June, 1947, he has been in a partnership practice at his present location.

The second article is the essay which won first prize in a recent contest among veterinary students sponsored by the Associated Serum Producers. The winner, Wing Q. Chin, by now a full-fledged veterinarian, has displayed a mature understanding of the profession's position and problems. This, we would like to believe, is typical of the greater maturity of the veterinary graduates of recent years. Not only are they the product of a longer training course but many were detoured into several years of military service, an experience which quickly matured many from boys to men. The JOURNAL congratulates all of the winners in this essay contest and commends

the Associated Serum Producers for sponsoring this worth-while project.

We believe that both of these articles deserve careful study.

Barnyard Sickness

Under the above title *The Wall Street Journal* on April 4, 1953, carried a front page article by Angus Deming, a staff reporter, which so lucidly portrays the present animal disease situation that we herein present abstracts of it.

A rash of new and puzzling diseases is plaguing the livestock industry—and bringing fresh woes to the hard-pressed U. S. Department of Agriculture.

Hog raisers, sheep growers, and cattle ranchers are having disease troubles. This wave of barnyard sickness is especially bad news to the new economy-bent management of the government. Already harrassed by a slump in farm prices and surpluses of some farm produce, the farm planners are discovering they may have to boost outlays under a federal disease-eradication scheme to help stamp out the new maladies.

Most alarming of the new livestock ills is a hog disease with the tongue-twisting name of vesicular exanthema—known as V. E. Since last July, it has spread quickly to 39 states and has infected over 170,000 hogs.

The other "mystery" diseases are troubling sheep ranchers. Bluetongue was first identified in California and Utah late last year. Some 325,000 sheep have since gotten the bug. Another known as "scrapie" affects the nervous system of the animals.

A fancy-sounding cattle disease labelled "hyperkeratosis" is not so new as sheep and hog complaints, but it's giving cattlemen a hard time in some 37 states around the country. From November, 1952, to February of this year, experts figure as many as 20,000 cattle have gotten hyperkeratosis, at a loss of $2 million to ranchers.

Pleading for more funds for the U.S.D.A.'s research activities, one department official expressed the view that the total boost requested—around $1 million—"could very profitably be expended in this field (animal diseases) because there are tremendous losses occurring through new diseases for which we do not have adequate means of control." Describing the problem as "urgent," he said it "represents an area in which we are losing ground; we are not keeping pace with the intensity of the problem as it is reflected in new diseases or greater ravages from old diseases."

The Department has already shelled out close to $2 million in its anti-V.E. drive in the 1953 fiscal year; officials told the committee the cost would be closer to $2,500,000 in fiscal 1954.

All told, department experts figure direct losses to farmers and growers of livestock comes to about $575 million a year from disease. And indirect costs to livestock handlers and shippers, state and federal governments, and even the corner grocer would run the disease cost figure to $1 billion annually, department officials say.

They must shell out extra dollars for disinfectants (decontamination measures cost one East St. Louis yard $30,000 recently when a shipment of V.E.-infected pigs came through), and their operations may be hampered by quarantines and embargoes. Packers must pay out added money for special processing of infected meat.

Grocers are indirectly hurt—consumers shy away from pork chops—if wide publicity has been given to hog sickness. Actually, their fears are groundless; vesicular exanthema—and most other animal complaints—can't be caught by human beings. But this medical truth is not always convincing to squeamish buyers.

Vesicular exanthema symptoms can't be distinguished from those of foot-and-mouth disease, unless painstaking diagnoses are made in each case. An outbreak of foot-and-mouth disease might be written off as just another case of vesicular exanthema until it was too late. Experts estimate that if foot-and-mouth disease ever broke loose in this country, it could cost the U. S. at least $200 million a year.

The only hope for eliminating V.E., the experts say, is to get every state in the country to write tough laws against feeding uncooked garbage to hogs.

Hyperkeratosis seems to present no long-range threat. The most recent outbreaks have been traced to feed pellets which had soaked up some of the naphthalene-containing lubricating oil during manufacture. "All that need be done," an official here [Washington, D. C.] says, is to educate people into not mixing chlorinated naphthalene in oil which might contaminate cattle."

Department officials don't anticipate a fast-spreading epidemic of scrapie because of the long incubation period of this ailment. But for this same reason, it's a tough one to control.

But bluetongue, heretofore unknown outside the African continent, has animal doctors here frankly baffled—so much so that the U. S. has called in the world's foremost specialist. He is Dr. R. A. Alexander, director of veterinary services for the Union of South Africa. U. S. Department of Agriculture officials are hoping he'll have an eradication scheme up his sleeve when he arrives late this month.

Hogs are raised on about 20,000 premises in California. Of these, about 400 feed garbage. In twenty years, 1,370 outbreaks of vesicular exanthema occurred among garbage-fed hogs with only 53 outbreaks on the 19,600 other ranches, most of which were traceable to garbage feeding by the interchange of animals.—*R. E. Duckworth, D.V.M., Sacramento, Calif.*

CURRENT LITERATURE

ABSTRACTS

Studies on the Developing Chicken Embryo with the Use of Radioactive Phosphorus

The incorporation of inorganic P^{32} into acid-soluble, phospholipid, and nucleoprotein fractions of selected tissues from newly hatched chicks was studied. The chicks had been injected with P^{32} on the ninth day of incubation. Tissues showed an uptake range of 2.0 to 4.8 per cent of the dose per gram of tissue with the following sequence: brain > liver > heart > whole blood > gizzard muscle > leg muscle. The brain exhibited the highest relative and absolute incorporation of P^{32} into the phospholipid fraction. The use of the developing chicken embryo is suggested as a means of obtaining isotope-labeled biochemical compounds of high specific activity.—[*L. M. Julian and L. J. Cole: Studies on the Developing Chicken Embryo with the Use of Radioactive Phosphorus. II. Incorporation of P^{32} into Tissue Phosphorus Fractions. Am. J. Vet. Res., 14, (1953): 127-140.*]

Continuous Ink-Writing Kymograph

Continuous kymograph recordings for experiments in veterinary physiology and pharmacology are necessary to indicate absorption time and duration of drug action. Relatively inexpensive standard equipment can be combined into a compact unit to facilitate teaching and research demanding continuous recording. The compact unit has proved itself to be efficient in our student and research laboratories. [*Ernest C. Stone and Paul A. Klavano: Continuous Ink-Writing Kymograph Unit for Teaching and Research in Veterinary Physiology and Pharmacology. Am. J. Vet. Res., 13, (Oct., 1952): 579-581.*]

Avian Neoplasia

The presence of Rous neutralizing antibodies (RNA) and the occurrence of microscopic and/or macroscopic lymphomatosis was studied in flocks where losses varied from less than 1 per cent to more than 48 per cent. It was found that: (1) over 60 per cent of the serums from field flocks with 30 to 50 per cent losses contained RNA; (2) where losses were less than 5 per cent, the incidence of RNA was less than 10 per cent, while no RNA were found in serums from some; (3) RNA were present in birds considered grossly and microscopically normal; (4) the presence of RNA did not appear to influence further loss due to neoplasms in birds taken from a flock with a history of 30 per cent loss.

Explanations for consideration in an attempt to interpret these findings were: (1) concurrent infections of the lymphoid tumor agent group and the connective tissue tumor agent group; (2) a synergistic relationship between lymphoid and connective tissue tumor agents; (3) neoplastic potentiality of the connective tissue tumor group to attack precursors of the lymphocytic series; and (4) the presence of an antigenic relationship of the Rous sarcoma agent to the lymphoid tumor agent group.—[*S. G. Kenzy and P. V. Nenzil: Studies in Avian Neoplasia. II. Incidence of Rous Virus-Neutralizing Antibodies in Serums Collected from Flocks Experiencing Losses Due to Lymphomatosis. Am. J. Vet. Res., 14, (1953): 123-128.*]

Acute and Prolonged Insulin Hypoglycemia in Cows

Two units of insulin per kilogram of body weight gave a maximum hypoglycemic effect, whereas 1 unit would not. Insulin dosages of 1, 2, 5, and 10 units per kilogram, respectively, resulted in durations of one and one half to two and one half hours, four to five hours, seven to eight or more hours, and twelve hours. The blood sugar level, even under the influences of large insulin injections is variable, indicating a vigorous resistance to very low glucose levels. Hypoglycemic response to intravenous insulin may be almost immediate or delayed for over thirty minutes postinjection although the rate of fall, once begun, was relatively constant between 25 and 40 mg. per 100 cc. of blood in thirty minutes. Mild hypoglycemic signs were seen in cows receiving injections of 2, 5, and 10 units of insulin per kilogram. Prolonged insulin hypoglycemia resulted in a convulsive hypoglycemic crisis which responded well to glucose injections. Recovery from hypoglycemic symptoms was observed to follow a short period of high blood glucose despite a long continued hypoglycemia immediately thereafter.—[*D. E. Jasper: Acute and Prolonged Insulin Hypoglycemia in Cows. Am. J. Vet. Res., 14, (April, 1953): 184-191.*]

Relation of Silage to Listeriosis in Sheep

Observations on natural outbreaks suggest relation of silage to listeriosis. The silage fed sheep in two outbreaks was brought to the laboratory and fed to experimental sheep. Some sheep were exposed to *Listeria monocytogenes* via the carotid artery, intravenously, intranasally, and intrarumen. Eight of 29 experimental sheep received no silage after exposure. Observations included symptoms and blood leukocyte reactions. There was no clear-

cut effect of the continual feeding of silage on development of listeriosis. Four sheep died with listeriosis after receiving silage and *L. monocytogenes*. Two others developed symptoms. One sheep which did not receive silage died after exposure. The results of the experiments were suggestive but not conclusive.—[*Carl Olson, Jr., V. Bagdonas, C. L. Rollins, and I. C. Blore: The Relation of Silage to Listeriosis in Sheep. Am. J. Vet. Res., 14, (April, 1953): 202-208.*]

Cross-Agglutination Reactions Among Brucella, Vibrio, and Other Microörganisms

It was determined that *Salmonella pullorum, Vibrio fetus,* and Brucella spp. are antigenically related. The effect of this relationship upon various agglutination diagnostic tests is unknown. *Pasteurella tularensis* and *Vibrio comma* share antigenic components with Brucella spp. but not with *V. fetus*. Further studies are being conducted to elucidate various phases of this problem.—[*E. V. Morse, M. Ristic, G. W. Robertstad, and D. W. Schneider: Cross-Agglutination Reactions Among Brucella, Vibrio, and Other Microorganisms. Am. J. Vet. Res., 14, (April, 1953): 324-327.*]

The Virus of Vesicular Exanthema of Swine

A complement-fixation test for identifying and differentiating three immunologically distinct types (A, B, and F) of virus causing vesicular exanthema is described. The test is conducted with a virus suspension prepared from vesicular lesions which were obtained from infected hogs in the field and submitted to the laboratory for test. The antigen in doubling dilutions is titrated in the presence of a constant volume of a normal and each of three known immunologically distinct types of previously standardized hyperimmune hog serums and one full unit of complement. Since hog serums are procomplementary, the guinea pig complement titer is previously determined in the presence of each swine serum employed. The test is incubated at 4 C. overnight. Of 83 samples of infected material submitted for testing, 58 were identified as type B, 17 as type A. Eight samples were classified as unsuitable for testing. Seven of these field samples picked at random were subjected to cross-immunity tests in swine, and in each case the results obtained were in accord with the serological differentiation. Samples obtained from 45 separate outbreaks in swine which were found infected upon arrival into the State of California from the Middlewest all conformed to type B vesicular exanthema virus.—[*R. A. Bankowski, R. Wichmann, and M. Kummer: A Complement-Fixation Test for Identification and Differentiation of Immunological Types of the Virus of Vesicular Exanthema of Swine. Am. J. Vet. Res., 14, (April, 1953): 145-149.*]

FOREIGN ABSTRACTS

Diplococcus Food Infection in Mink

An outbreak of serious illness occurred on a mink ranch, in which 91 (67%) of 135 animals died. The mortality was greatest among the young animals of which 84 out of 98 died. Most of the animals became ill at the same time; the deaths occurred over a period of ten days. The symptoms were those of an acute gastroenteritis, *i.e.*, vomiting, diarrhea, and dyspnea. The postmortem picture was that of an acute infection with bronchopneumonia and pleuritis. Cultures made of the spleen, liver, pneumonic lesions, and pleural exudate revealed a gram-positive Diplococcus which proved to be *Diplococcus pneumonia,* type 23. Several days before the outbreak, the mink had been fed meat and organs from a calf that had died. *Diplococcus pneumonia,* type 23 was isolated from the remaining meat and from joints of the calf.—[*Hans Hoff and C. Woxholtt: Diplococcus Food Infection in Mink. Nord. Vet.-med., 4, (Dec., 1952): 1201-1206*]—A.G.K.

The Bacterial Flora in Otitis Externa in Dogs

Seventeen cases of otitis externa in dogs were examined bacteriologically to determine the sensitivity of the bacteria to various chemotherapeutic agents. Specimens were obtained from the ear by means of a sterile swab which was used to inoculate serum-agar plates. Subcultures from the original plate were made on peptone-free, blood-agar plates. Tablets containing penicillin, sulfathiazole, streptomycin, aureomycin, chloromycetin, and terramycin, respectively, were placed on the blood-agar plate. The resistance or sensitivity of the culture was indicated by the zone of inhibition around each tablet after incubation. From 16 cases, a pure culture of Staphylococcus was obtained. Only 10 were found to be sensitive to penicillin. These cases were treated with penicillin, 50,000 units twice daily in the ear for a week. One to two weeks later, 9 of these were found to be bacteriologically sterile. Cultures of the remaining animal revealed a penicillin-sensitive Staphylococcus which, on further treatment, disappeared.

Strains from 2 dogs were resistant to penicillin but were sensitive to streptomycin. These were treated with a streptomycin ointment which gave good results in 1 animal. Cultures obtained fourteen days later from the other animal showed that the microörganisms had become resistant to streptomycin, but were still sensitive to aureomycin which gave a good therapeutic effect. Two of the 16 strains were most sensitive to aureomycin. The otitis was treated with aureomycin ointment with good results. In one case, the staphylococci were resistant to all the agents tested. Treatment with mercurochrome resulted in a bacteriologically negative examination in

fourteen days. One case, previously treated with penicillin and mercurochome, had microörganisms most sensitive to chloromycetin. Treatment with this antibiotic resulted in relief of symptoms and a bacteriologically negative examination.

The last case was found to be a mixed infection with staphylococci and *Pseudomonas aeruginosa* that had been previously treated with penicillin. The cultures were found to be resistant to penicillin and sensitive to streptomycin. After treatment with streptomycin, pure cultures of staphylococci resistant to streptomycin, but sensitive to aureomycin and chloromycetin, were found. Treatment with these drugs did not produce the desired results and a third culture was made and found to be sensitive to penicillin. A course of treatment with this agent produced good results. This account indicates the necessity of adjusting the therapy to the results obtained by determination of bacterial resistance to chemotherapeutic agents *in vitro*.—[*A. Dam: Studies on the Bacterial Flora in Otitis Externa in Dogs. Nord. Vet.-med., 4, (Dec., 1952): 1207-1210.*]—A.G.K.

The Bromsulfalein Test as a Liver Function Test in Dogs

Four to seven hours after feeding, dogs were given 5 mg. of bromsulfalein per kilogram of body weight. In thirty minutes and in sixty minutes, blood specimens were obtained for determination of the dye. For 17 normal dogs, it was found that the dye retention did not exceed 0.3 mg./100 cc. of blood in thirty minutes and 0.15 per cent in sixty minutes. Results of tests on dogs with histologically proved hepatic disease indicated that a dye retention of 0.4 to 0.5 mg./100 cc. of blood provided suspicion of liver damage, while a retention of 0.5 mg./100 cc. of blood, or more, indicated impairment of liver cells. The degree of dye retention may be taken as a measure of the degree of liver dysfunction.—[*I. M. Nielsen: Use of the Bromsulfalein Test as a Liver Function Test in Dogs. Nord. Vet.-med., 4, (Dec., 1952): 1192-1200.*]—A. G. K.

Linseed Meal Containing Ricin Toxic to Cattle

Severe losses due to deaths and to decrease in milk production were found to be due to ricin poisoning. The cattle and calves were fed linseed meal cakes which contained the hulls of the castor bean. The linseed meal was thought to have originated in a factory where both linseed oil and castor oil were prepared. The hulls of the castor bean which contains ricin may be recognized as smooth and dark brown with a "marbled" pattern. The beans are 1 to 2 cm. in diameter, oval, and have a distinct "marbled" marking. About 15 farms were involved with a total of 105 cases, of which 11 cows and 9 calves died. It was calculated that the total average drop in milk production from the sick cows was about 124 kg. of milk. Symptoms consisted of loss of appetite, diarrhea and bloody stools, and coma. The pathological appearance is not characteristic. The liver may be enlarged and show fatty metamorphosis. The kidneys were hyperemic and showed tubular necrosis.—[*H. Westermarck: Linseed Meal Cakes Containing Ricin as the Cause of Death and Decrease in Production in Cattle. Nord. Vet.-med., 4, (Oct., 1952): 1005-1009.*]—A. G. K.

Congenital Hereditary Paralysis in Calves

Previous work has shown that this condition is due to a single recessive gene. Only homozygotes have symptoms. The disease in the Red Danish cattle can be traced to 1 bull which was heterozygous for this character. Aside from the paralysis, affected calves are apparently normal. The joint and tendon reflexes are accentuated and the spasticity produces incoördination of the limbs. Electromyography revealed that the increase of tonus may be of extra-pyramidal origin. Histological examination revealed degenerative changes in globus pallidu and substantia reticulosis.—[*E. Christensen and N. O. Christensen: Congenital Hereditary Paralysis in Calves. A Clinical and Pathologic-Anatomical Study. Nord. Vet.-med., 4, (Sept., 1952): 861-878.*]—A. G. K.

Aspecific Reactions Caused by Skin Lesions

In the course of tuberculin testing, the author often found reactions in clean animals; these reactions appear to be aspecific and pertain to skin lesions. The skin lesions show themselves clinically as externally perceptible knots in the deeper layers of the skin or subcutis (about 10% of the cases). In 90 per cent, the skin lesion lies in the superficial parts of the skin and in a certain phase it shows itself as an ulcer or erosion. The most pronounced reactions occur in this phase. Animals 4 and 5 years old are especially affected with skin lesions. The intradermal tuberculin test of an animal with skin lesions causes a swelling which has a harder consistency and which is also less painful than in the case of tuberculosis.—[*D. Frieling: Aspecific Reactions Caused by Skin Lesions. Tijdschr. voor Diergeneesk., 78, (Feb. 1, 1953): 116-122.*]—L.V.E.

Control of Nematodes in Domestic Animals

The control of intestinal parasites of domestic animals depends upon the bacterial flora of the intestine.

Animals have more resistance against intestinal parasites when their bacterial flora has not been damaged. The maintenance of the normal intestinal flora of animals by proper nutrition is the best indirect control of such parasites.

For direct control of intestinal parasites, only those antiparasitic preparations should be used which do not destroy the coli flora. However, the most frequently used preparations destroy the intestinal flora either temporarily or permanently.

Proteolytic ferments are effective for the control

of nematodes in domestic animals, since they do not damage the intestinal flora.

In vitro experiments have shown that the most prevalent nematodes of domestic animals have been destroyed in a very short time by the proteolytic ferment *"vermizyn".*—[*H. Liebmann: The Use of Proteolytic Ferments for the Control of Nematodes in Domestic Animals. Berl. und Münch, Tierärztl. Wchnschr., 66, (1953): 17.*]—F.K.

Acute Barbiturate Intoxication

Of 49 cases (32 women and 17 men) treated for barbiturate poisoning, 15 died, a mortality of 28.5 per cent. The age varied from 16 to 58 years. Half of the victims had an overdosage of luminal.

In treating all cases, analeptics were used plus the necessary accessory therapy. The analeptics used were: 11 cases, metrazol; 6 cases, coramine; 7 cases, coramine and metrazol; 15 cases, coramine and picrotoxin; 6 cases, coramine and strychnine; 2 cases, metrazol and strychnine; and 1 case, coramine, picrotoxin, and strychnine. The single dose varied between 1 and 20 cc. of metrazol, 1 and 20 cc. of coramine, 3 and 18 gr. of picrotoxin, and 1 and 10 mg. of strychnine, repeated as indicated. In this series, best results were obtained with metrazol therapy.

The author referred to Eric Nilsson,* who, when using only pulmonary ventilation and no analeptics, found a mortality of only 1.77 per cent in 176 cases.

Commenting on Nilsson's work, the author stresses: (1) aspiration of the gastric contents, if patients are presented in less than two hours after taking of the drug, then giving 20 gr. of activated charcoal in one-half glass of water; (2) adequate respiration; (3) oxgen at a rate of 6 to 7 liters per minute, properly humidified; (4) changing the position of the patient each two hours; (5) prophylactic antibiotics; (6) blood transfusions or dextran injections; bicarbonate of soda to prevent acidosis and hasten the elimination of the barbiturate; and 5 per cent glucose solution intravenously, 2 to 3 liters in twenty-four hours; (7) high vitamin C dosage and hypertonic glucose to maintain proper caloric balance; (8) maintenance of body temperature by immersing in a bath at 38 C.; (9) Trendelenburg position; (10) catheterization if necessary; (11) strict medical supervision throughout the course of treatment. A special nurse should be provided.—[*M. Aldo Lucchini and R. Alfredo Schneider: Acute Barbiturate Intoxication. Rev. Med. de Valparíso, 5, (Sept., 1952): 329.*]—G.T.E.

*Acta Medica Scandinavica, vol. 139, supplement 253.

The National Dog Welfare Guild

"Every Dog Has His Say," Edward Anthony's book, is to be offered as this year's gift to dog lovers. It is available as a gift to anyone contributing a minimum of $5 to the National Dog Welfare Guild, a nonprofit organization which operates a year-round office of service to dog owners. Contributors also become members of the Guild's "Man's Best Friend Club." Dog owners are urged to send $10 and present a second copy of this gift book to their local school, library, or friend.

BOOKS AND REPORTS

Textbook of Virology

The second edition of this excellent textbook has been expanded to almost twice its orginal size. As in the first edition, the material is authoritative, concisely written, and well presented. There are many excellent illustrations. One major fault of the first edition—a lack of a bibliography—has been rectified. At the end of each chapter is a list of key references pertaining to the subject under consideration.

About one fifth of the book covers material on the fundamental aspects of viruses, including sections on viral properties and techniques used in virology. A general discussion of the characteristics of virus infections also is presented. This section of the book is particularly valuable to one desiring a general knowledge of virology.

The remaining four fifths of the volume is concerned with specific viral and rickettsial diseases. Unfortunately to those in veterinary medicine, the discussions apply for the most part to human infections. There are, however, many features of this book that are of direct interest to the veterinary virologist.

This book is indeed worth-while and is recommended to all interested in the nature of virus and rickettsial diseases.—[*Textbook of Virology. By A. J. Rhodes and C. E. Van Rooyen. 2nd ed. 561 pages. Well illustrated. The Williams & Wilkins Co., Baltimore. 1953. Price $8.00.*]—GEORGE C. POPPENSIEK.

Medical Milestones

This very readable, small book has a foreword by the discoverer of penicillin, Sir Alexander Fleming, with whom the author had worked.

The book consists of 20 chapters dealing with subjects that every veterinarian should be more familiar with than he is. These include the history and factual material regarding the antibiotics, giving their uses and limitations in a general way. It discusses the relationship of hormones and cancer and, as an example of one of the things it points out to the lay public, stresses the danger of becoming an "aspirin addict."

A very useful statement is made regarding cortisone and ACTH. A little time is given to DDT, dramamine, and various other drugs common in medicine.—[*Medical Milestones. By Henry J. L. Marriott, M.D. 293 pages. The Williams & Wilkins Co., Baltimore, Md. 1952. Price $3.50.*]—M. G. FINCHER.

THE NEWS

Plans for the 1953 AVMA Convention in Toronto Completed

Veterinarians and their families attending the Ninetieth Annual Meeting of the AVMA in Toronto, July 20-23, 1953, will find the days and evenings packed with a continuous round of scientific, professional, and social events. The plans for the forty-two hours of scientific program, including over four hours of closed circuit television, a dozen scientific exhibits, about 60 commercial exhibits, and special showings of new motion pictures have been completed by members of the committees on program and local arrangements. The Committee on Local Arrangements has also completed all of its plans for the entertainment of the delegates, their ladies, and the teenagers. The registration for the Convention is sure to exceed 2,000 and all indications point to an outstanding 1953 meeting.

Busy Schedule Begins on Sunday

Veterinarians arriving on Sunday, July 19, can begin registering at noon. There are numerous meetings of affiliated groups scheduled for this day. The preconvention conference on public relations will be of particular interest to secretaries of veterinary medical associations, and chairmen and members of ethics and public relations committees.

On Monday, July 20, the registration will continue, beginning at 8:30 a.m., and the Opening Session of the Convention is called for 9 a.m. Highlights of the Opening Session will be the Welcome Address, the Response, the President's Address, and the presentation of the winners of the Humane Act Award, the Twelfth International Veterinary Congress Prize, the Borden Award, and the AVMA Award. The nomination of officers will conclude the session.

Scientific Program Begins Monday Afternoon

The scientific programs for the Sections on General Practice and Research begin Monday afternoon. The Research Section ends Tuesday noon, but the General Practice Section has three sessions this year and will continue until 4:30 p.m. on Tuesday.

The women have their tea and tour of the Casa Loma, North America's only authentic castle, on Monday afternoon; the teenagers have a "coketail" party, and the golfers have their tournament. Monday evening everybody goes to the baseball game.

On Tuesday, the Small Animal and Poultry Sections begin their program at 1:30 p.m. The Poultry Section has two, three-hour sessions which end Wednesday noon. The Small Animal Section has three sessions this year, so their program will continue until 4:30 p.m. on Wednesday.

Tuesday afternoon the women have their annual luncheon, the teenagers go touring, and several affiliated groups meet following the section programs in the afternoon and that evening.

On Wednesday afternoon, the Surgery and Obstetrics and Public Health Sections begin their program. Both of these sections have two sessions which end at noon on Thursday.

Wednesday the women have two business sessions, the Auxiliary's annual meeting and the presidents' and secretaries' conference; the teens tour the Casa Loma and have a luncheon and beach party. There will be ample time to explore Toronto's attractive shops.

Wednesday evening is the "big night" of the week. The alumni of 15 schools will have their banquets at 6:30 p.m., after which everyone will want to go to the President's Reception and Dance at the lakeside, moonlit Palace Pier.

Thursday noon, immediately after the morning section programs end, the Closing Session will be held in the Concert Hall where the AVMA and Auxiliary officers for the ensuing year will be installed. Before 1 p.m. the Ninetieth Annual AVMA Convention will be history and the delegates will turn to packing for trips to Guelph to visit the Ontario Veterinary College, for the trip to the International Veterinary Congress in Stockholm, for trips into Canada's "unlimited" vacationland, and the less fortunate will start for home after a memorable, long-to-be-remembered five days.

Toronto Meeting to Feature Educational Exhibits

In addition to the commercial exhibits, several educational institutions and government agencies will display highly interesting exhibits designed to portray important aspects of veterinary problems.

The New York State Veterinary College will have two exhibits. One will portray the importance of verified differential diagnosis in the control of mange and scabies of livestock, and the other will show how the New York State mastitis control program provides veteri-

narians with improved technique for combating bovine mastitis.

The School of Veterinary Medicine of Alabama Polytechnic Institute will display gross and histological lesions of hepatitis x of dogs, and also data regarding the distribution and incidence of the disease.

The Ontario Veterinary College will display avian pathological specimens, some of which are seen only rarely in Ontario.

Forty-eight colored transparencies depicting the various measures employed in Alberta to control rabies in wildlife will be shown by the Alberta Central Rabies Control Committee.

The Federal Civil Defense Administration will present photographic murals and cut-outs, showing how biological warfare can be used as a modern weapon against men, animals, crops, and why the enemy might use it.

The Armed Forces Institute of Pathology will present: (1) an exhibit on cryptococcosis, showing the epizoölogy, pathology, and differential diagnosis of the disease; (2) another display, depicting some of the common animal neoplasms of cattle, dogs, and chickens, grossly and microscopically.

The exhibit "Veterinary Aspects of Atomic Warfare", presented by the Veterinary Corps, U.S. Army, will feature several rats in cages, one of which will be radioactive, and the public will be invited to select him by means of a Geiger-Muller tube.

The Animal Care Panel, a group interested in the care of laboratory animals in research and teaching institutions, will portray some of the problems and the aims of the panel.

The Pan American Sanitary Bureau, whose exhibit won first place last year, has again been invited to participate in this year's meeting. However, at the time of this issue going to press, the AVMA office did not know if the Bureau would be represented.

There is also a possibility that the Ontario Veterinary College will present an exhibit on the prosthesis of the head of the femur.

Late News About Fifteenth International Veterinary Congress in Stockholm

Not long after this issue of the JOURNAL reaches its readers, a sizeable group of veterinarians, their wives, and others will be en route to Stockholm, Sweden, to attend the Fifteenth International Veterinary Congress which will be held August 9 to 15.

The JOURNAL has carried stories about the

Executive Board Nominees in Districts II and III

As a result of the primary balloting completed on May 28, 1953, the following nominees for election to five-year terms on the Executive Board from Districts II and III appear on ballots which were mailed to members in those districts on June 1, 1953:

Dr. Christensen is the present incumbent in district III.

Polls for the election closed on June 30, 1953. The two persons selected will take office at the conclusion of the annual meeting in Toronto, July 20-23, 1953.

As required by the recent revision of the Administrative By-Laws, the ballots carried information as to the type of professional work, the school and year of graduation, and the addresses of the respective nominees.

District II (Delaware, District of Columbia, Maryland, New Jersey, and Pennsylvania)

Name	Type of professional work	School and year graduated	Address
Dr. Mark Allam	Teaching and Research	UP '32	211 E. 5th St., Media, Pa.
Dr. A. L. Brueckner	State Government	UP '24	4111 Colesville Rd., Hyattsville, Md.
Dr. J. B. Engle	Small Animal Practice	COR '26	P.O. Box 432, Summit, N. J.
Dr. R. D. Hoffman	General Practice	UP '31	325 S. Richard St., Bedford, Pa.
Dr. M. P. Sause	Small Animal Practice	API '41	6207 Bel Air Rd., Baltimore 6, Md.
Dr. S. F. Scheidy	Teaching and Research	UP '29	943 Turner Ave., Drexel Hill, Pa.

A tie for fifth place in the nominating ballots in District II resulted in listing six candidates instead of the usual five. Dr. Scheidy is the present incumbent in this district.

District III (Illinois, Indiana, and Wisconsin)

Name	Type of professional work	School and year graduated	Address
Dr. A. E. Bott	Commercial	CVC '13	110 Country Club Place, Belleville, Ill.
Dr. L. M. Hutchings	Teaching and Research	MSC '40	Department of Veterinary Science, Purdue University, Lafayette, Ind.
Dr. A. G. Misener	Small Animal Practice	ONT '38	6448 N. Clark St., Chicago, Ill.
Dr. O. Norling-Christensen	Small Animal Practice	OSU '32	730 Hibbard Rd., Wilmette, Ill.
Dr. W. G. Raudabaugh	General Practice	OSU '38	Piper City, Ill.

Stockholm Congress for the past several months.

About 60 persons are scheduled to sail from Montreal on July 24 via the Canadian Pacific Steamer, *Empress of France*, arriving in Liverpool July 31. The following week will be for touring Scotland and parts of Norway, with arrival in Stockholm on August 8. The week of August 9 will be spent in Stockholm and then the tour party will visit Denmark, Holland, Belgium, and France, returning to England for a few days before sailing for home on September 1.

A number of persons are taking a tour extension which will include Switzerland, and others will also visit Italy. Quite a few persons are taking parts of the tour and then traveling independently for special visits to various places.

Those who will travel by air will leave New York on July 30 via Pan American Airlines and, depending on the tour taken, will depart from London for home early in September.

The tours, all of which have been arranged by Travel Service Bureau of Brookline, Mass., include visits to outstanding places of interest to tourists and to veterinary schools in the various countries.

About 30 veterinarians from the States are scheduled to present papers before the plenary and section meetings of the Stockholm Congress. The JOURNAL will publish as full accounts as possible of the Congress events and a complete list of United States speakers and their topics in future issues beginning with October. Instructions for obtaining copies of the official proceedings of the Fifteenth International Veterinary Congress by interested persons who will not attend were published in the June issue (p. 496).

Mrs. A. E. Bott Named American Mother of the Year

Mrs. Ethlyn Wisegarver Bott, wife of Dr. Anthony E. Bott, Belleville, Ill., was named American Mother of the Year by the American Mothers Committee of the Golden Rule Foundation at a meeting in New York on April 28. Her selection for national honors followed a similar honor conferred earlier as Illinois' Mother of the Year (*see* the JOURNAL, (May, 1953) : 416).

Mrs. Bott was chosen as American Mother of the Year from among mothers from all the states, the District of Columbia, Alaska, and Puerto Rico. She became the first stepmother to win the title in the nearly quarter of a century since the formation of the American Mothers Committee.

Newspaper accounts spoke of Mrs. Bott's qualifications for the award, including the outstanding trait of a successful mother, her sense of civic and international understanding, and her activity in community betterment.

Mrs. Bott called on Mrs. Eisenhower at the White House, leaving with her a "Mothers' Proclamation" for the President, to remind him that he has the prayers of mothers in his efforts for peace.

A native of DeLand, Ill., and a former high school teacher, Mrs. Bott is a graduate of Stephens College, Columbia, Mo., and was an administrator on the faculty there for a number of years. She was married to Dr. Bott five years after the death of his first wife and became mother to the four children whose ages were from 5 to 14 years. One, Dr. Anthony R. Bott, received his veterinary degree from Texas A. & M. College in 1944; another son, Edward, is a graduate of Duke University. Both are associated with their father in the Corn Belt Laboratories, Inc., East St. Louis, Ill. There are also two married daughters.

Mrs. L. W. Goodman (left), wife of Dr. L. W. Goodman, member of the Veterinary Medical Association of New York City, presented Mrs. Bott with a corsage of orchids on the occasion of her being named Mother of the Year. Mrs. Goodman and Dr. Charles Schroeder, of the Veterinary Medical Association of New York City, arranged for the welcoming of Mrs. Bott when she arrived in New York to receive the honor.

Haver-Glover Laboratories Makes Second Donation of $1,500 to AVMA Research Fund

The Haver-Glover Laboratories, Kansas City, Mo., has again expressed its belief in fundamental veterinary research by contributing $1,500 in support of the AVMA Research Fellowship projects. This is the second time within a year that Haver-Glover has made such a donation, which makes a total of $3,000 that they have contributed to the current fund-raising campaign.

News From Washington

That veterinary officers of the Army, Air Force, and U. S. Public Health Service will receive $100 a month additional pay beginning July 1, 1953, now seems certain. The doctor draft law, passed by the Senate, added veterinarians in the Service to the groups (physicians and dentists) who will receive the equalization pay. This amendment, accepted by the House conferees, is therefore in the bill presented to Congress to extend the doctor draft. The bill is almost certain to become a law.

This brings to a successful conclusion the work of the AVMA to have veterinary officers granted this equalization pay. The Association has for several years attempted to have the laws amended to include veterinary officers. The doctor draft law was amended in the Senate committee at the request of President-Elect J. A. McCallam who appeared before the Committee on behalf of the AVMA.

Details of the new doctor draft law will be published in the August JOURNAL.

* * *

The Department of Defense has reported unfavorably to Congress on the bills (see JOURNAL, March, p. 242; April, p. 330; May, p. 412) ***to make veterinarians eligible for appointment as first lieutenants*** immediately after graduation.

This does not necessarily mean that this legislation is doomed. The AVMA is endeavoring to have hearings held on these bills. With Congress scheduled to adjourn during the summer, it is doubtful whether hearings will be scheduled during this session of the 83rd Congress.

* * *

To speed the eradication of vesicular exanthema, new regulations effective July 1 have been published in the June 6 Federal Register. They require that swine fed raw garbage be moved only for slaughter and special (heat) processing of their meat. For 6 months after July 1, swine fed no raw garbage for 30 days and which have not been in contact with raw garbage-fed hogs may be slaughtered without special processing if accompanied by a certification that they do not show symptoms of V.E.

The regulations also require that vehicles used for transporting swine interstate and for 200 miles or more shall, when unloaded, be thoroughly cleaned and disinfected. There are other more stringent requirements relative to the cleaning and disinfection of vehicles, stockyards, and feedwater and rest stations.

No federal indemnity will be paid after July 1 for swine destroyed in an outbreak of V.E. associated with feeding raw garbage.

* * *

Thirty-two states have now passed legislation or enacted regulations requiring the cooking of garbage before it is fed to swine and 9 other states have similar legislation pending, according to the U.S.D.A. The importance of this requirement is demonstrated by reports that V.E. has been found in 479 herds fed raw garbage, while it has been found in only 27 herds not fed raw garbage.

STUDENT CHAPTER ACTIVITIES

New York Chapter.—On March 26, 1953, the following officers were elected to the New York State Veterinary College Student Chapter of the AVMA: Robert F. Kahrs, president; Helen V. Coates, vice-president; John A. Matochik, treasurer; Henri C. Marsh, secretary; Drs. Robert Kirk and John Bentinck-Smith, faculty advisors.

The following speakers addressed student chapter meetings during the 1952-1953 school year: **Drs. Donald Delahanty,** of the faculty; **John L. McAuliff,** Cortland; **M. O'Brian,** University of Rochester; **R. Leighton,** Angell Memorial Animal Hospital, Boston; **D. W. Baker,** of the faculty; **James Layton,** of the New York State Veterinary Medical Society; **G. G. Stevens,** Groton; **E. A. Woelffer,** Oconomowoc, Wis.; **Mr. J. W. Wells,** Department of Geology, Cornell University; and **Dr. V. L. Tharpe,** Ohio State University, Columbus.

Social activities included the annual Christmas party on Dec. 19, 1952, and the spring picnic on May 23, 1953.

s/HENRI C. MARSH, *Secretary.*

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Texas Chapter.—The following is a resumé of the activities of the Texas A. & M. Student Chapter of the AVMA during the spring semester: **Dr. L. G. Cloud,** Fort Worth, discussed vesicular exanthema at the meeting on February 10. On February 24, **Dr. R. D. Radeleff,** U. S. BAI, Kerrville, spoke on insecticide toxicity in domestic animals.

Drs. Paul Turman, Bill Jones, and **Jack Clayton,** all of Tyler, were guest speakers at the March 17 meeting. They each presented some of their interesting veterinary experiences, and Dr. Jones also showed two colored films: "Interesting Clinical Cases" and "Bovine Artificial Insemination." **Dr. A. A. Price,** of the faculty, spoke on the objectives of the state Association at the March 31 meeting.

A motion picture produced by Associated Serum Producers, "Veterinary Public Relations," was presented at the April 16 meeting. The annual banquet and ball was held April 18.

Mr. Reed C. Collier discussed "Professional Group Insurance" on May 5. At the final meeting, May 12, the following achievement awards were presented: Southwestern Veterinarian Faculty Award, Dr. W. C. Banks; Appreciation Award to the editor of the *Southwestern Veterinarian,* J. G. Goodman; Radiology Award, E. W. Crow; AVMA Student Auxiliary Award, J. G. Goodman; Faculty Award of Merit, Eula Phillips (senior), E. D. Besch (junior), E. L. Tieken (sophomore), B. W. Cline (freshman); Associated Serum Producer's Award, J. G. Goodman; Fort Dodge Veterinary Scientific Writing Award, J. E. Allison.

The following officers served the Chapter during the spring semester: Paul Kramer, president; W. H. Smith, president-elect; J. E. T. Laningham, vice-president; Bill Ponder, secretary-treasurer; E. L. Tieken, reporter; F. N. Sims, parliamentarian; and Joe Braden, sergeant-at-arms.

s/E. L. TIEKEN, *Reporter.*

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Texas Students in "Who's Who."—On the basis of popularity, leadership, and participation in activities, as well as a requirement of 1.5 or higher grade-point ratio, the following veterinary students of Texas A. & M. College were named to "Who's Who Among Students in American Universities and Colleges": William Lon Anderson, who served as president and vice-president of the Student Chapter; Ernest William Brucks, Jr., John Peter Davis, Jr., John Graydon Goodman, Hayden I. Jenkins, and Ralph Wayne Rowe, all members of the Student Chapter. This is the second year Mr. Davis has been so honored.

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Missouri Chapter.—At the final meeting of the school year, on May 11, Dean A. H. Groth presented chapter diplomas to the following seniors who were in good standing with the University of Missouri Student Chapter of the AVMA for the past four years:

Charles Berry, John Bruner, William Bryson, Joseph Counsilman, Floyd Elliott, Harry

John P. Hickcox

Eschenroeder, James Ganaway, Gordon Greeley, Clair Hibbs, Theodore Higgins, David Johnson, Kyle Kent, Kenneth Knoernschild, Walter Love, Ralph Manfull, Alexander Matteson, Joseph Minnick, Paul Nelson, Wilber Noland, Vern Owens, Chester Plegge, Hersel Robertson, Leo Rohlfing, Paul Smith, Johnny Thurmon, Robert Wallace, Hilery Wheatley, and John Woolsey.

The following officers were elected at this

meeting: Venton Goodnight, president-elect; Harry Forrest, vice-president; James Bozarth, secretary; and Lee Heutel, treasurer.

Chapter members chose John P. Hickcox as their delegate to the AVMA convention in Toronto. Mr. Hickcox is 25 years old, married, and has served as secretary of the Chapter and on several committees. He also belongs to the Alpha Zeta agricultural fraternity.

s/JACK O. PARKER, *Retiring Secretary.*

WOMEN'S AUXILIARY

Women's Auxiliary Announces Recipients of 1953 Achievement Awards.—This is the fourth annual Achievement Awards made by the Women's Auxiliary to the AVMA to students in accredited colleges of veterinary medicine in the United States and Canada. The award, $25 and a certificate, is made to the senior student who is selected for outstanding activities which have contributed to the recognition of veterinary medicine and the school on the campus. The selections, made either by the deans and faculty and/or the respective student chapters, are based on the individual's accomplishments in campus activities, athletics, student functions, leadership, scholarship, and other collegiate functions.

The 1953 recipients are identified in the composite picture. Lack of space does not permit publication of the individual citations or records upon which the selections were made, and which were furnished to the Women's Auxiliary by the deans of the schools.

The senior at Ohio State University who received the achievement award is Waldo F. Keller. His picture was not received for publication.

The Ontario Veterinary College and Cornell University were unable to participate in the awards this year.

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Kansas City Auxiliary.—The Women's Auxiliary to the Kansas City Veterinary Medical Association met at the Continental Hotel on May 19 for an interesting demonstration of fellowship dolls, followed by visiting and cards.

s/MRS. GLEN DUNLAP.

APPLICATIONS

Applicants — Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., the names of applicants residing within

Left to right:

Frederick E. Becker,
Alabama Polytechnic Institute.
Benjamin V. Lundberg,
University of California.
Harold G. Krog,
Colorado A. & M. College.
William H. Justice,
University of Georgia.

Glenn L. Waxler,
University of Illinois
Don H. Wheeler,
Iowa State College.
Glenn E. Hurley,
Kansas State College.
Hubert Q. Tucker,
Michigan State College.

Leo A. Zehrer,
University of Minnesota.
Robert A. Mutrux,
University of Missouri.
Samuel K. Morrison,
Oklahoma A. & M. College.
Thomas J. O'Brien,
University of Pennsylvania.

Pierre Larue,
University of Montreal.
John G. Goodman,
Texas A. & M. College.
Milton V. Weathersby,
Tuskegee Institute.
Lynn A. George,
State College of Washington.

the jurisdictional limits of the constituent associations shall be published once in the JOURNAL.

The following applicants have been certified as members of the constituent association that has jurisdiction over the area in which the applicant resides. This certification was made by the secretary of the constituent association in accordance with Section 2, Article X, of the Administrative By-Laws.

COX, SAMUEL A.,
4339 No. State, Jackson, Miss.
D.V.M., Alabama Polytechnic Institute, 1945.

DIETRICH, LEROY E.
3421 E. Harry, Wichita 17, Kans.
D.V.M., Kansas State College, 1917.

GALBREATH, SCOTT, JR.
562 Springfield Ave., Westfield, N. J.
D.V.M., Alabama Polytechnic Institute, 1946.

JOHANSON, LAWRENCE V.,
Thompson, Iowa.
D.V.M., Iowa State College, 1943.

KERN, DORIAN J.,
Route 1, Killbuck, Ohio.
D.V.M., Ohio State University, 1946.

MILLER, CHARLES E.,
314 W. King, Strasburg, Va.
D.V.M., United States College of Veterinary Surgeons, 1916.

MOUNT, STUART C.,
Milwaukee Health Dept., Room 607, Milwaukee, Wis.
D.V.M., Chicago Veterinary College, 1918.

NELSON, CONRAD L.
3541 N. W. 10th, Oklahoma City, Okla.
D.V.M., Kansas State College, 1942.

POTTER, HARLAND R.
207 Drummond Rd., Stamford Centre, Ont.
D.V.M., Ontario Veterinary College, 1928.

STONE, G. D.,
77 Elizabeth, Ellicottville, N. Y.
D.V.M., New York State Veterinary College, 1927.

TOPP, ROLLIE C.,
P. O. Box 127, Smithville, Ont., Canada.
D.V.M., Ontario Veterinary College, 1935.

TURNER, CLIFFORD W.,
P. O. Box 654, Auburn, Calif.
D.V.M., Kansas State College, 1937.

WIGDERSON, FRED J.
24 Zabriskie St., Hackensack, N. J.
V.M.D., University of Pennsylvania, 1936.

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Correction.—In the June JOURNAL (p. 504), Dr. L. L. Jones of Sutherland, Iowa, was erroneously listed as a graduate of Kansas State College. Dr. Jones received his D.V.M. degree from Kansas City Veterinary College.

Applicants — Not Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., notice of all applications from applicants residing outside of the jurisdictional limits of the constituent associations, and members of the Armed Forces, shall be published in the JOURNAL for two successive months. The first notice shall give the applicant's full name, school, and year of graduation, post office address, and the names of his endorsers.

First Listing

CHOW, TSU-LING
Department of Veterinary Science, University of Wisconsin.
B.V.S., National Central University, China, 1940.
Vouchers: J. R. Gorham and J. S. Dunlap.

ROSSER, BILL W.,
1818 A. Patton Dr., Ft. George Meade, Md.
D.V.M., Texas A. & M. College, 1948.
Vouchers: E. W. Grogan and R. M. Nims.

SCOTT, ROBERT E.,
Campos Eliseos 68, Mexico, D. F., Mexico.
D.V.M., Texas A. & M. College, 1944.
Vouchers: D. W. Johnson & F. A. Peak.

Second Listing

BEADNER, HAROLD F., 1205 Birk Ave., Ann Arbor, Mich.

DAY, ROBERT W., Headquarters, Flying Training Air Force, Office of the Air Surgeon, Waco, Texas.

GORMAN, HARRY A., 1538 Mesa Ave., Broadmoor, Colorado Springs, Colo.

NOVICH, SAMUEL D., c/o Dr. N. R. Matthews, 384 Gramatan Ave., Mt. Vernon, N. Y.

1953 Graduate Applicants

The following are graduates who have recently received their veterinary degree and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of student chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (*) after the name of a school indicates that all of this year's graduates have made application for membership.

First Listing

Alabama Polytechnic Institute

All of the following applicants were vouched for by Drs. R. S. Sugg and M. Heath.

AUSTIN, WILLIAM J., D.V.M.
P. O. Box 1108, Auburn, Ala.

BALDWIN, L. RICHARD, D.V.M.
5212 10 Ave., North, St. Petersburg, Fla.

BECKER, FREDRICK E., D.V.M.
2635 N. W. 36th St., Miami, Fla.

BENNETT, RUPERT A., JR., D.V.M.
Rt. 3, Buchanan, Tenn.

CARDINAL, LOUIS C., D.V.M.
c/o Capital Stockyards, Montgomery, Ala.

CLINE, CHARLES G., D.V.M.
5056 Dixie Garden Dr., Shreveport, La.

HAYES, HENRY H., D.V.M.
1581 W. Lincoln, Anaheim, Calif.

HENDERSON, HAROLD E., D.V.M.
Wauchula, Fla.

HIGGINBOTHAM, THOMAS M., D.V.M.
Box 151, Mer Rouge, La.
HILL, CHARLES B., D.V.M.
709 2nd Ave., N., Amory, Miss.
HUNT, JOE H., D.V.M.
Trenton Animal Clinic, Trenton, Tenn.
MARTIN, JOE G., D.V.M.
Box 134, Ripley, Miss.
MARTIN, WALTER L., JR., D.V.M.
4607 Midland Pike, Chattanooga, Tenn.
MORGAN, JAMES P., D.V.M.
132 Water St., Henderson, Ky.
MULLINS, ROBERT S., D.V.M.
6116 N. Main St., Jacksonville, Fla.
PRATT, BRUCE G., D.V.M.
Holly Hall Plantation, Beaufort, S. Car.
PETTWAY, JOSEPH B., D.V.M.
Oxford, Miss.
SHULER, FRANCIS L., D.V.M.
Holly Hill, S. Car.
STEVENSON, JAMES H., D.V.M.
Post Office, Decherd, Tenn.
STOOKEY, JAMES L., D.V.M.
P. O. Box 1122, Mobile, Ala.
STRAUGHN, ANDREW F., D.V.M.
Dozier, Ala.
WHITE, JOHN W., D.V.M.
Meadville, Miss.

Graduating Class, 1953, School of Veterinary Medicine, Alabama Polytechnic Institute

Front row (left to right)—Joe G. Martin, Chester F. Gaines, W. L. Martin, Jack A. Gunn, Elgie E. Nissen, C. Bert Hill, Peter J. Muller, Andrew F. Straughn, I. Jack Mitchell.

Second row—Harold A. Tennant, Bryan I. Grissett, Robert P. Akers, William S. Fairey, Charles Garth Cline, Robert S. Mullins, Ernest H. Fievet, James W. Patterson.

Third row—Richard E. Wilhite, E. C. Sharman, H. Steven Adair, R. Morris Byrd, Francis L. Shuler, Joseph B. Pettway, William J. Austin, Buford L. Whitt, George F. Yopp, Michael Beven.

Fourth row—Charles M. Byles, Alfred J. Rimes, James H. Nelson, F. Earl Becker, Charles F. Giddens, James C. Young, George P. Shiflett.

Fifth row—O. Earl Baker, Howard S. Wilcox, J. Brannen Murphy, Harold E. Henderson, Thomas Higginbotham, Clyde E. Smith, Henry H. Hayes.

Sixth row—Joe Hunt, John W. White, James E. Chancellor, Louis C. Cardinal, Julian C. Cornwell, Jimmy L. Stookey.

Seventh row—Charles C. Murphy, Robert A. Glass, James N. Thomas, James H. Stevenson, Bruce G. Pratt, Lawrence Y. Frost, J. P. Morgan, L. Richard Baldwin, J. R. Priester, John C. Cooksey, Rupert A. Bennett.

Not shown—Stanley B. Seltzer.

Whitt, Buford L., D.V.M.
707 West Clinton, Huntsville, Ala.
Wilcox, Howard S., D.V.M.
Box 15, Grand Cane, La.
Yopp, George F., D.V.M.
1619 10 Ave., Columbus, Ga.

All of the following applicants were vouched for by Drs. R. S. Sugg and W. S. Bailey.

Adair, Henry S., Jr., D.V.M.
3530 Cleveland Rd., Montgomery, Ala.
Akers, Robert P., D.V.M.
c/o Post Office, Tylertown, Miss.
Beven, Michael, D.V.M.
783 Lakeland, Baton Rouge, La.
Byles, Charles M., D.V.M.
Rt. 1, Chattanooga, Tenn.
Byrd, Robert M., D.V.M.
Henderson Animal Clinic, Henderson, Ky.
Chancellor, James E., D.V.M.
Macon, Miss.
Cooksey, John C., D.V.M.
Box 273, Lloyd, Fla.
Cornwell, Julian C., D.V.M.
65 Beverly Road, Beverly Hills, Asheville, N. Car.
Fairey, William S., D.V.M.
W. Russell St., Orangeburg, S. Car.
Fievet, Ernest J., D.V.M.
1407 Forrest Drive, Maryville, Tenn.
Frost, Lawrence Y., D.V.M.
Cleveland, N. Car.
Gaines, Chester F., D.V.M.
Weldon, N. Car.
Giddens, Charles F., D.V.M.
Box 202, Austell, Ga.
Glass, Robert A., D.V.M.
P. O. Box 786, Jacksonville, N. Car.
Grissett, Bryan I., D.V.M.
116 Cox St., Auburn, Ala.
Gunn, Jack A., D.V.M.
Cedar Hill Rd., Springfield, Tenn.
Mitchell, Irvin J., D.V.M.
1201 S. W. 9th Ave., Ft. Lauderdale, Fla.
Muller, Peter J., D.V.M.
189 E. Drive, Oakridge Park, New Orleans, La.
Murphy, Charles C., D.V.M.
1028 14th Ave., N, St. Petersburg, Fla.
Murphy, James B., D.V.M.
St. Cloud, Fla.
Nelson, James H., D.V.M.
Pontotoc, Miss.
Nissen, Elgie E., D.V.M.
Country Club Heights, Bennettsville, S. Car.
Patterson, James W., D.V.M.
Gen. Del., Ruston, La.
Priester, James R., D.V.M.
Rt. 3, Box 300, Opelika, Ala.
Rimes, Alfred J., Jr., D.V.M.
Rt. 3, Summit, Miss.
Seltzer, Stanley B., D.V.M.
MR3 — Reese Road, Columbus, Ga.
Sharman, Euclid C., D.V.M.
502 Vernon St., LaGrange, Ga.
Shiflett, George P., D.V.M.
414 Willow St., Knoxville, Tenn.
Smith, Clyde E., Jr., D.V.M.
c/o Knoxville Animal Clinic, 312 W. Church Ave., Knoxville, Tenn.
Tennant, Harold A., D.V.M.
Atmore, Ala.
Thomas, James N., D.V.M.
Welsh Animal Clinic, Welsh, La.
Wilhite, Richard E., D.V.M.
Mitchell St., Bolivar, Tenn.
Young, James C., D.V.M.
Rt. 1, Lebanon, Tenn.

Kansas State College

All of the following applicants, with the exception of those otherwise noted, were vouched for by Drs. J. E. Mosier and R. R. Dykstra.

Adams, Ralph L., D.V.M.
906 Broadway, Little Rock, Ark.
Vouchers: J. E. Mosier and D. S. Folse.
Awe, Donald E., D.V.M.
115 No. Second St., Springfield, Ill.
Vouchers: J. E. Mosier and W. H. Hay.
Beaver, Earl S., D.V.M.
615 4th Ave., Grinnell, Iowa.
Bradley, William F., D.V.M.
1001 West Monroe, Mexico, Mo.
Vouchers: J. E. Mosier and F. H. Oberst.
Breeden, Lowell D., D.V.M.
Clark, S. Dak.
Vouchers: J. E. Mosier and D. S. Folse.
Claybaker, Richard A., D.V.M.
Chester, Neb.
Vouchers: J. E. Mosier and D. S. Folse.
Cline, Donald F., D.V.M.
Hardington, Neb.
Vouchers: M. J. Twiehaus and E. E. Leasure.
Edwards, David S., Jr., D.V.M.
Union Bridge, Md.
Vouchers: J. E. Mosier and D. S. Folse.
Edmundson, Billy Joe, D.V.M.
109 West 29th, Topeka, Kan.
Vouchers: M. J. Twiehaus and F. H. Oberst.
Fairbairn, Leighton E., D.V.M.
Claflin, Kan.
Vouchers: F. H. Oberst and W. H. Hay.
Flack, Buddy R., D.V.M.
Dysart, Iowa.
Vouchers: D. S. Folse and J. W. Lumb.
Foote, John D., D.V.M.
Caney, Kan.
Forsberg, Leo A., Jr., D.V.M.
Minneapolis, Kan.
Vouchers: J. E. Mosier and E. R. Frank.
Garrett, Thomas M., D.V.M.
Brookport, Ill.
Vouchers: J. E. Mosier and E. R. Frank.
Good, John R., D.V.M.
Box 411, Ponca City, Okla.
Vouchers: J. E. Mosier and W. H. Hay.

GRAY, ANDREW P., D.V.M.
904 Humboldt, Manhattan, Kan.
Vouchers: E. R. Frank and R. R. Dykstra.

GROSS, JOANNE G., D.V.M.
210 West Beecher, Jacksonville, Ill.
Vouchers: R. R. Dykstra, and E. R. Frank.

HAMMARLUND, MARION A., D.V.M.
545 Ohio St., Topeka, Kan.

HEINZE, CHARLES D., D.V.M.
1436 South 20th, Lincoln, Neb.
Vouchers: J. E. Mosier and E. R. Frank.

HILLHOUSE, ARVILLE B., D.V.M.
906 Osage, Manhattan, Kan.
Vouchers: J. E. Mosier and M. J. Twiehaus.

HOLDER, RAY D., D.V.M.
6234 Troost Ave., Kansas City, Mo.
Vouchers: J. E. Mosier and D. S. Folse.

HOLDER, RICHARD D., D.V.M.
116 East Maple, Independence, Mo.

HUGHES, CLINTON D., D.V.M.
Gen. Del., Mulberry, Kan.
Vouchers: J. E. Mosier and D. S. Folse.

HURLBURT, JOHN H., D.V.M.
Rt. 5, Manhattan, Kan.
Vouchers: F. H. Oberst and E. E. Leasure.

HURLEY, GLEN E., D.V.M.
Brownstown, Ind.
Vouchers: J. E. Mosier and E. R. Frank.

JONES, WILLIAM G., D.V.M.
911 Ft. Worth St., Weatherford, Texas.
Vouchers: J. E. Mosier and D. S. Folse.

LINDSAY, CHARLES A., D.V.M.
Rt. 4, Box 111, Claremore, Okla.
Vouchers: J. E. Mosier and W. H. Hay.

LYNN, WILLARD L., D.V.M.
Franksville, Wis.
Vouchers: J. E. Mosier and F. H. Oberst.

LYONS, JOSEPH F., D.V.M.
c/o Dr. Leeper, 17th St. at Ingersol, Des Moines, Iowa.
Vouchers: J. E. Mosier and J. H. Cowan.

MARTIN, MARION E., D.V.M.
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Vouchers: E. E. Leasure and J. H. Cowan.

MCCAHON, JAMES H., D.V.M.
310 Edith St., S. E. Albuquerque, N. M.
Vouchers: J. E. Mosier and M. J. Twiehaus.

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Graduating Class, 1953, School of Veterinary Medicine, Kansas State College

R.D.Holder D.R.Nicholson J.R.Good D.F.Cline L.V.Russell R.E.Smith J.G.Gross C.A.Lindsay W.F.Brabley J.A.Stanberry R.S.Trautman S.S.Swift
M.G.Wickham M.E.Martin R.S.Loomis
The School of Veterinary Medicine
Class of May 24, 1953
Kansas State College
P.R.Strom M.H.Werbin W.G.Jones
C.D.Hughes E.D.Baker B.J.Edmondson R.A.Claybaker B.R.Hack E.S.Beaver L.A.Whitehair E.S.McCreight N.D.McCoss J.D.Savage W.R.Schlecty J.D.Foote
D.E.Nelson L.A.Forsberg T.M.Garrett L.E.Fairbairn G.A.Windsch D.E.Awe G.H.Merrill J.H.McCahon J.F.Schindler F.H.Stockton J.L.Smith G.J.Mitchell
Ray D.Holder J.R.Schnelle N.S.Wolf M.A.Hammerlund R.L.Adams G.E.Hurley D.S.Edwards,Jr C.L.Smith W.L.Lynn C.F.McCannon L.D.Breeden J.J.Brennan
J.F.Lyons L.J.Russell,Jr A.B.Hillhouse M.L.Swartz R.J.Streeter R.D.Simon J.H.Hurlburt A.P.Gray D.F.Schwindaman M.S.Watts H.G.Warren C.D.Heinze

MITCHELL, GERALD J., D.V.M.
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Vouchers: J. E. Mosier and M. J. Swenson.
NELSON, DALLAS L., D.V.M.
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Vouchers: W. H. Hay and F. H. Oberst.
NICHOLSON, DONALD R., D.V.M.
Wisconsin Rapids, Wis.
Vouchers: J. H. Cowan and J. E. Mosier.
RUSSELL, LEE J., JR., D.V.M.
Calhoun City, Miss.
RUSSELL, LYLE V., D.V.M.
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Hominy, Okla.
Vouchers: J. E. Mosier and D. S. Folse.
SCHINDELAM, JOSEPH F., D.V.M.
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SCHLECTY, WILLIAM R., D.V.M.
Alma, Kan.
Vouchers: J. E. Mosier and F. H. Oberst.
SCHNELLE, JOHN R., D.V.M.
Oakley, Kan.
Vouchers: J. E. Mosier and E. R. Frank.
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Vouchers: J. E. Mosier and W. H. Hay.
SIMON, ROBERT D., D.V.M.
XIT Ranch, Meade, Kan.
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Vouchers: E. E. Leasure and M. J. Twiehaus.
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327 Fairway, Kirkwood, Mo.
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STANBERRY, JOHN A., D.V.M.
2680 Myers, Oroville, Calif.
Vouchers: J. E. Mosier and D. S. Folse.
STOCKTON, FORREST H., D.V.M.
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Vouchers: J. E. Mosier and J. H. Cowan.
STREETER, ROBERT J., D.V.M.
1434 W. Slauson St., Los Angeles, Calif.
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Dwight, Kan.
Vouchers: H. E. Gill and J. H. Cowan.
SWIFT, SETH S., D.V.M.
609 N. 16th St., Manhattan, Kan.
TROUTMAN, RICHARD S., D.V.M.
Box 30, Glenwood, Iowa.
Vouchers: J. E. Mosier and W. H. Hay.
WATCHORN, MERLE G., D.V.M.
Dodge, Neb.
Vouchers: J. E. Mosier and L. M. Roderick.
WATTS, MERLE S., D.V.M.
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WHITEHAIR, LEO A., D.V.M.
R. R. No. 2, Abilene, Kan.
WINDISCH, GEORGE A., D.V.M.
1022 E. Wea, Paola, Kan.
WOLF, NORMAN S., D.V.M.
Dept. Animal Care, 303 E. Chicago Ave., Chicago, Ill.

New York State Veterinary College*

All of the following applicants, with the exception of those otherwise noted, were vouched for by Drs. F. H. Fox and A. G. Danks.

BOARDMAN, CRAGER J., D.V.M.
R. D. No. 3, Taberg, N. Y.
Vouchers: C. L. Myers and A. G. Danks.
BOROSON, ELIHU B., D.V.M.
3 Peter Cooper Rd., New York, N. Y.
BUCKLEY, PATRICK C., D.V.M.
Brasher Falls, N. Y.
BUELL, WILLIAM C., D.V.M.
R. D. No. 2, Ithaca, N. Y.
Vouchers: S. J. Roberts and F. H. Fox.
CHANDLER, ROBERT L., D.V.M.
Lander Veterinary Clinic, P. O. Box 381, Turlock, Calif.
Vouchers: A. G. Danks and R. E. Habel.
CLAUSE, CHARLES F., D.V.M.
Bedford, Pa.
Vouchers: H. H. Dukes and A. G. Danks.
CROSHAW, J. ELLIS, JR., D.V.M.
New York State Veterinary College, Ithaca, N. Y.
CROWELL, LAURENCE R., D.V.M.
23 Delano St., Pulaski, N. Y.
Vouchers: M. G. Fincher and A. G. Danks.
DANN, LAVERNE S., D.V.M.
Lisle, N. Y.
Vouchers: D. D. Delahanty and A. G. Danks.
DAVIS, GARRIE R., D.V.M.
Inverness Farm, Monkton, Md.
Vouchers: F. H. Fox and M. G. Fincher.
DIBITETTO, DANIEL, D.V.M.
130 W. Hickory St., E. Rochester, N. Y.
Vouchers: P. D. Delahanty and W. M. Santoro.
DRAUDT, RICHARD P., D.V.M.
121 Broadway, Gowanda, N. Y.
Vouchers: S. J. Roberts and W. M. Santoro.
EBERSOL, MILTON F., D.V.M.
MR#2, Western Ave., c/o Dr. F. L. Davis, Augusta, Maine.
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GOLDFINGER, LEWIS A., D.V.M.
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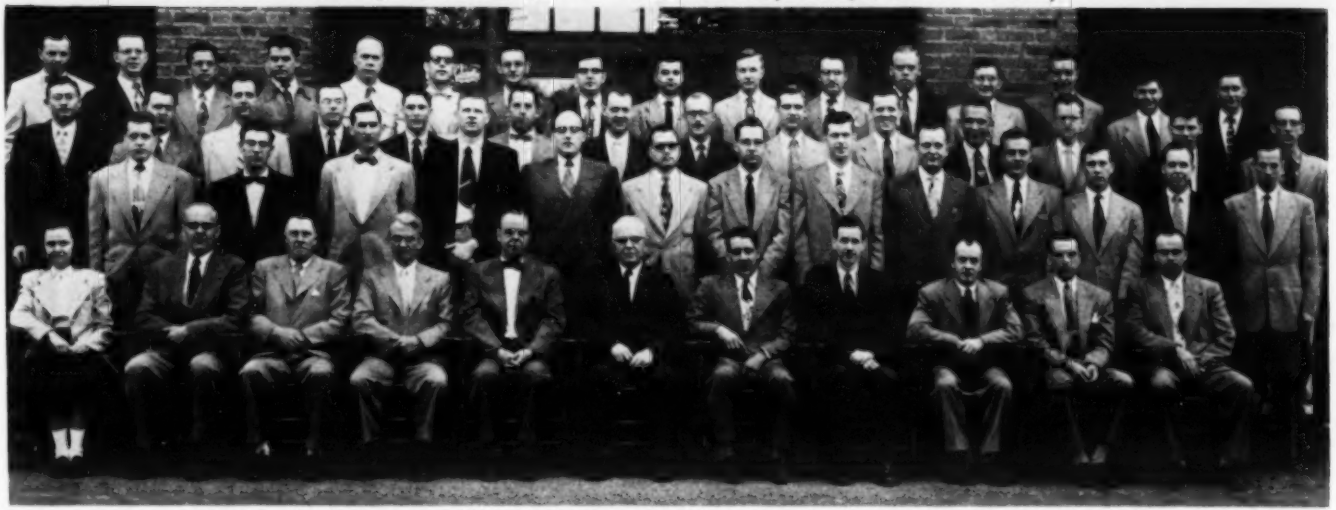
Graduating Class, 1953, New York State Veterinary College, Cornell University



Front row (left to right)—Mary (Ford) Rowan, Drs. M. G. Fincher, E. P. Leonard, A. G. Danks, Dean W. A. Hagan, Drs. H. C. Stephenson, S. J. Roberts, J. Bentinck-Smith, D. D. Delahanty, R. W. Kirk, and Crager J. Boardman.

Second row—Elihu B. Boroson, Jordan Lewis, Paul E. Hoffman, L. William Goodman, Louis H. Jacobson, Joseph H. Robbins, William C. Buell, Robert L. Chandler, Russell D. Williamson, Arthur O. Lindblom, Jr., Gerald L. Hayes, Warren W. Mead, Jr., and LaVerne S. Dann.

Third row—Aaron L. Shor, Joseph L. Thorne, Franklin W. Rapp, Francis A. Simpson, Richard W. Harter, Milton F. Ebersol, George W. Summer, Jr., William J. Twining, Frederick T. Lewis, Stanley H. Hull, Richard P. Draudt, Laurence R. Crowell, Arthur E. Greiner, Jr., and William L. Mitchell.

Back row—Garrie R. Davis, Lewis A. Goldfinger, George D. Vineyard, Arthur Motta, Robert P. Lunna, Louis O. Nezvesky, Daniel DiBitetto, William F. Stack, Danny C. Schlomchug, Robert C. Nelson, Charles W. Sanderson, Patrick C. Buckley, Joseph E. Croshaw, Jr., Charles E. Hall, Erwin B. Winokur, and Charles F. Clause.

HAYES, GERALD L., D.V.M.
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Vouchers: A. G. Danks and D. D. Delahanty.
HULL, STANLEY H., D.V.M.
c/o Dr. Craig Rowan, Weiser, Idaho.
Vouchers: R. E. Habel and F. H. Fox.
JACOBSON, LOUIS H., D.V.M.
c/o Dr. Jack Straley, Bellefonte, Pa.
Vouchers: A. G. Danks and P. P. Levine.
LEWIS, FREDERICK T., D.V.M.
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LEWIS, JORDAN, D.V.M.
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Vouchers: R. W. Kirk and E. P. Leonard.
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Chaumont, N. Y.
Vouchers: A. G. Danks and R. W. Kirk.
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Thurmont, Md.
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Jeffersonville, N. Y.
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Vouchers: P. P. Levine and F. H. Fox.
THORNE, JOSEPH L., D.V.M.
Pleasant Grove, Utah.
Vouchers: A. G. Danks and M. G. Fincher.
TWINING, WILLIAM J., D.V.M.
Copenhagen, N. Y.
Vouchers: A. G. Danks and R. E. Bogue.
VINEYARD, GEORGE D., D.V.M.
R. D. #2, Bridgeton, N. J.
WILLIAMSON, RUSSELL D., D.V.M.
R. D. 4, Lexington, Va.
Vouchers: A. G. Danks and R. E. Bogue.
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Highland Terrace, Brewster, N. Y.
Vouchers: F. H. Fox and D. D. Delahanty.

Oklahoma A. & M. College*

All of the following applicants, with the exception of those otherwise noted, were vouched for by Drs. C. H. McElroy and N. B. Tennille.

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Vouchers: C. H. McElroy and J. W. Wolfe.
CASON, CARL D., JR., D.V.M.
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CLYMER, DAVID E., D.V.M.
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HESTER, FRANKLIN W., D.V.M.
601 S. Hickory, Chelsea, Okla.
Vouchers: C. H. McElroy and L. E. Moe.
HILL, MORRIS L., D.V.M.
Deep Run, N. Car.
HUFFMAN, KENNETH W., D.V.M.
1914 Main St., Keokuk, Iowa.
KIRKBRIDE, CLYDE A., D.V.M.
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Vouchers: C. H. McElroy and C. N. Murphy.
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Vouchers: C. H. McElroy and L. H. Moe.

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Graduating Class, 1953, School of Veterinary Medicine, Oklahoma A. & M. College

Top row (left to right)—R. Rubin, L. H. Moe, D. R. Peterson, E. E. Harnden, J. W. Wolfe, W. H. Krull, H. W. Orr, N. B. Tennille, W. M. Rice, D. M. Trotter.

Second row—W. D. O'Mara, J. D. Friend, E. L. Blevins, C. N. Murphy, G. E. Short, Dean C. H. McElroy (center), A. L. Malle, B. L. Blenn, P. R. Henry, F. R. Knotts, B. T. Simms, Jr.

Third row—W. L. Alberty, I. D. Alexander, C. W. Brown, T. A. Byrd, L. E. Carlin, C. D. Cason, Jr., D. E. Clymer, R. D. Conrad.

Forth row—J. P. Devine, Jr., J. M. Gambardella, F. W. Hester, M. L. Hill, K. W. Huffman, L. J. Kimray, C. A. Kirkbride, F. T. Lynd, S. K. Morrison, J. M. Oyler, A. Pailet.

Bottom row—R. J. Panciera, W. A. Potts, W. M. Pounds, L. D. Schwartz, R. H. Swayze, J. H. Venable, J. A. Walker, I. R. Wilcox, R. E. Williams, D. A. Woesner, A. V. Yanda.

U. S. GOVERNMENT

Death of Dr. Fladness.—The passing of Dr. Severn O. Fladness, on May 5, 1953, marks the close of one of the Bureau of Animal Industry's most colorful careers. During his forty-seven years with the Bureau, he served under all five of its chiefs and twelve secretaries of agriculture. He was assistant chief of the Bureau since 1941. He died in Washington, D. C., after an illness of several months. His wife preceded him in death by just six weeks.

Dr. Fladness was born in Skjol's Parish, Norway, in 1885, and came to this country with his parents the next year. He began his work with the Bureau in 1906 as a lay inspector with the scabies eradication program. In 1912, he received his D.V.M. from the Chicago Veterinary College. After practicing for a short period, he returned to the Bureau in 1913 and was sent, in 1916, to South America to study methods of eradicating livestock diseases and inspection procedures. He returned to the United States in 1918 as assistant chief of the Field Inspection Division. In 1924, he was sent to Mexico during that country's first outbreak of foot-and-mouth disease. Following another assignment in South America, he returned to the United States in 1928. In 1931, he was made chief of the Field Inspection Division, and in 1941, assistant chief of the Bureau.

In 1951, Dr. Fladness received the Department's distinguished service award. His commendation at that time read in part, "for your many and valuable contributions to agriculture through your outstanding and inspirational leadership in planning and directing livestock disease control and eradication functions of the Bureau, which have added immeasurably to the nation's economy and the Department's prestige in this country and abroad."

Dr. S. O. Fladness

The Bureau has lost one of its most loyal and effective members. Dr. Fladness' long experience in fighting livestock diseases can not be replaced. He had fully earned the unofficial title of elder statesman. His leadership and ability will be sorely missed by the many people who have worked with him in the Department and livestock industry.

Dr. Fladness was a member of the AVMA, the National Association of Federal Veterinarians, and the National Livestock Sanitary Association. He is survived by two daughters.

S/B. T. SIMMS.

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U.S.P.H.S. Milk Ordinance and Code—1953 Revision.—The 1953 recommendations of the Public Health Service are contained in a 242-page edition of the "Milk Ordinance and Code" which has become the standard of reference for milk sanitation requirements in the United States. This is the twenty-second revision or edition since the Ordinance was first published in 1924. The current edition, like its forerunners, has the approval of the U.S.D.A., its representatives and health authorities and officials of the dairy industry having assisted the Public Health Service in its preparation. Over the years, the Service has also had the advice of experts from various fields, who comprise an advisory board. The veterinary member of the current ten-man board is Dr. Franklin A. Clark, School of Veterinary Medicine, Alabama Polytechnic Institute.

The items in the Ordinance and Code of special veterinary interest relate to the health of dairy cattle and are covered in item 1, which requires that (1) all milk for pasteurization shall be from herds in a modified accredited tuberculosis-free area as determined by the BAI and which is retested not less than every six years, or (2) from a BAI-accredited tuberculosis-free herd, or (3) shall have passed an annual tuberculin test; all tests and retests having been made according to BAI requirements. For brucellosis, the item states that within three years after the Ordinance is adopted by a given health department, all milk shall be from herds certified by the state livestock sanitary authority as under Plan A or Plan B approved by the BAI for eradication of brucellosis.

For udder conditions, it is stated that cows which show a complete induration of one quarter or extensive induration in one or more quarters on physical examination, whether secreting abnormal milk or not, shall be permanently excluded from the milking herd (does not apply in the case of quarters completely dry); cows showing bloody, stringy, or otherwise abnormal milk, but without entire or extensive induration of the udder, are to be excluded until milk has become normal.

For other diseases, such tests and examinations shall be made as the health officer may require after consultation with the state livestock sanitary official and diseased animals disposed of as required.

In discussing the public health reasons for dairy cattle health, a number of diseases and infections that may be transmitted to milk consumers are mentioned, such as tuberculosis, brucellosis, Q-fever, salmonellosis, staphylococcic and streptococcic infections. Bovine mastitis is stressed as a common ailment usually due to streptococci of bovine origin but, occasionally due to streptococci of human origin that may cause milk-borne scarlet fever or septic sore throat; certain staphylococcic infections may produce toxins that cause gastroenteritis and are not destroyed by pasteurization.

Certified milk (raw) is defined as milk produced under the supervision of a medical milk commission in conformity with the standards of the American Association of Medical Milk Commissions. The pasteurized product must be processed in conformity with the requirements for grade A pasteurized milk.

The greatest part of the Milk Ordinance and Code is devoted, of course, to the multitude of requirements for construction of milk handling and processing equipment, its operation, cleaning, and sterilization methods.

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Veterinary Personnel Changes.—The following changes in the force of veterinarians in the U. S. Bureau of Animal Industry are reported as of May 22, 1953:

NEW APPOINTMENTS

Adrian S. Eder, Newark, N. J.
Richard G. Knight, Raleigh, N. Car.
Raymond A. Minor, Ottumwa, Iowa.
George L. Severns, Davenport, Iowa.
Floyd V. Washko, Greenport, L. I., N. Y.

MILITARY FURLOUGHS

Herbert C. Holk, Montgomery, Ala.
Thomas H. Vardaman, Auburn, Ala.

RESTORATION AFTER MILITARY FURLOUGH

William L. Black, Jr., Albuquerque, N. M.
Richard B. Myers, Oklahoma City, Okla.

SEPARATED (Military Service)

Joseph N. Allred, Phoenix, Ariz.

CANCELLATION

Louis E. Buck, Cheyenne, Wyo.

DEATHS

Severin O. Fladness, Washington, D. C.
Frederick J. Tacke, South St. Paul, Minn.

RESIGNATIONS

Owen E. Andrus, Salt Lake City, Utah.
Jean N. Archer, Chicago, Ill.
Julius J. Haberman, Los Angeles, Calif.
John B. Huhn, Milwaukee, Wis.
Elmer L. Lashua, Mexico City, Mex.
Edward T. Printz, Jr., Ottumwa, Iowa.
Montgomery A. Tegg, Rochester, N. Y.

RETIREMENTS

Aloysius M. Hoehn, Detroit, Mich.
Benjamin H. Moon, Nashville, Tenn.

TRANSFERS

Guy F. Abell, from Harrisburg, Pa., to Baton Rouge, La.
Beck E. Bowen, from San Antonio, Texas, to Nashville, Tenn.
James R. Collier, from Chicago, Ill., to Huron, S. Dak.
George W. Fischer, from Nashville, Tenn., to Fort Worth, Texas.
Solomon C. Gartman, from Phoenix, Ariz., to Atlanta, Ga.
Herbert C. Holk, from Mexico City, Mex., to Montgomery, Ala.
Donald W. Johnson, from Mexico City, Mex., to Lansing, Mich.
William O. Ker, from Cleveland, Ohio, to Archbold, Ohio.
Tadeusz Kolodynski, from Boston, Mass., to Buffalo, N. Y.
Clarence B. Lord, from Madison, Wis., to Phoenix, Ariz.
Norvan L. Meyer, from Mexico City, Mex., to Indianapolis, Ind.
Israel M. Saturen, from Harrisburg, Pa., to Indianapolis, Ind.
Maurice S. Shahan, from Washington, D. C., to Greenport, L. I., N. Y.
Robert S. Sharman, from Mexico City, Mex., to Washington, D. C.

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No Penalty for Under Supply of Serum.—The U. S. Department of Agriculture will take no action against hog cholera antiserum manufacturers who were unable to have on hand, on May 1, at least 40 per cent as much serum as they sold in the previous year, as is required by law. The 1953 shortage is due to the prevalence of vesicular exanthema which, because of quarantine and other eradication measures, seriously interfered with the production of serum.

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Modified Cholera Vaccines Proposed for Swine Shipped Interstate.—Secretary of Agriculture Benson has proposed an amendment to the regulations which govern the interstate transportation of swine. Regulations at present permit interstate shipment of swine properly vaccinated with hog cholera antiserum and virulent virus but not with modified live virus vaccines. The amendment would allow also the interstate shipment of swine vaccinated with modified vaccines plus serum. Comments on this proposal were invited during the thirty days after publication of this proposal.

AMONG THE STATES AND PROVINCES

British Columbia

Death of Dr. Jervis.—James G. Jervis (OVC '12), 62, Langley Prairie, B. C., died May 8, 1953, in St. Paul's Hospital, Vancouver, after a brief illness. Born in Vancouver, Dr. Jervis

entered practice there in partnership with Dr. M. Sparrow after his graduation from Ontario Veterinary College. Later, he practiced for many years in Langley Prairie.

During his career, he held official positions in the Health of Animals Branch, Dominion Department of Agriculture, as a part-time veterinarian, an accredited veterinarian, and later as a full-time veterinary inspector. At the time of his recent illness, he was on a rabies control assignment in Northern British Columbia.

Dr. Jervis served as president of the British Columbia Veterinary Association in 1924 and 1925 and was for many years on its Council. He was also a member of the Canadian V.M.A., the AVMA, which he joined in 1915, and the U. S. Livestock Sanitary Association. He served for a number of years as resident provincial secretary for the AVMA in British Columbia.

He is survived by his widow, Mrs. (May Skillicorn) Jervis whom he married in 1914; and two daughters, Mrs. R. Winters of Langley Prairie, and Mrs. M. McGarrigle of North Vancouver, B.C.; and four grandchildren.

Florida

Animal Disease Research Workers.—The seventh annual meeting of Animal Disease Research Workers in the Southern States was held in Gainesville on April 7-8, 1953. A total of 59 members and guests from the southern states and from the U. S. Department of Agriculture were registered.

The program included numerous subjects of marked interest to all. A tour of the Florida Agricultural Experiment Station, under the direction of Dr. L. E. Swanson, served to familiarize the group with the animal disease studies being conducted at Gainesville. A banquet was held at the Gainesville Golf and Country Club the night of April 7.

Officers elected for the following year are: Drs. W. B. Bell, Blacksburg, Va., president; R. S. Sugg, Auburn, Ala., vice-president; P. L. Piercy, Athens, Ga., secretary-treasurer; A. L. Kleckner and L. E. Swanson, Gainesville, Fla., directors.

s/PAUL L. PIERCY, *Secretary.*

Georgia

South Georgia Association.—At the April 12 meeting of the South Georgia Veterinary Medical Association, a portion of the program was devoted to practitioner-laboratory relationship and cooperation. At this time, audience suggestions, criticisms, and comments were invited concerning the laboratory services. **Dr. Joseph E. Burnside**, livestock toxicologist, gave a brief discussion of the type and preservation of specimens that should be sent to the laboratory for toxicological examinations. **Dr. John S. Andrews**, BAI parasitologist of Tifton, gave an interesting talk on bovine parasitism in southern Georgia. A demonstration of preparing, staining, and identifying Anaplasma organisms was followed by individual participation, after which the meeting was adjourned.

s/MAX B. ATWOOD, *Secretary.*

Indiana

Northwestern Association.—On April 23, the Northwestern Indiana Veterinary Medical Association met in Lafayette to hear **Dr. George Scarseth**, of Purdue University, and director of the American Farm Research Organization, discuss barnyard philosophy and farm culture.

Dr. and Mrs. Portman were hosts.

s/J. L. KIXMILLER, *Resident Secretary.*

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Northeastern Association.—The Northeastern Indiana Veterinary Medical Association met in Decatur on May 12. **Dr. M. L. Weldy**, of Wakarusa, spoke on sterility of cattle, telling of his experiences and methods in handling this problem.

Dr. and Mrs. R. E. Allison of Decatur were hosts to the group.

s/J. L. KIXMILLER, *Resident Secretary.*

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Central Association.—The Central Indiana Veterinary Medical Association met in Indianapolis on May 13. A general discussion of the current rabies situation was the main topic for the evening. **Dr. Nestor**, M.D., secretary of the Board of Health, with some aids met with the veterinarians to find the best plan to prevent rabies from spreading by obtaining better cooperation from the public.

Officers of this association are Drs. Howard Glass, Indianapolis, president; and W. A. Tornes, Indianapolis, secretary-treasurer.

s/J. L. KIXMILLER, *Resident Secretary.*

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Michiana Association.—Members of the Michiana Veterinary Medical Association met in South Bend on May 14 to hear **Dr. A. H. Craige** of Pitman Moore, Co., discuss "Diarrhea in Calves."

s/BRUCE HOSTRAWSER, *Secretary.*

Iowa

Practitioners' Clinic.—The Eastern Iowa Veterinary Association's nineteenth annual all day practitioners' clinic was held May 5, 1953, at Hawkeye Downs, Cedar Rapids. The following speakers participated in the various sections: Poultry and swine diagnostic sections—**Drs. F. E. Brutsman**, Traer; **C. D. Lee**, Ames; **Paul C. Bennett**, Ames; **Paul V. Neuzil**, Blairstown; and **H. C. Smith**, Sioux City. Large animal diagnostic section—**Dr. Maurice C. Larson**, Keystone. Mastitis tests demonstration—**Dr. L. E. Barnes**, Ames. Surgical

demonstrations, including surgical anesthesia, operation for traumatic gastritis in the cow, amputation of udder, claw amputation, cesarean section in a sow, and vena cava bleeding of swine—**Drs. Nathaniel R. Waggoner,** Olin; **G. R. Moore,** East Lansing, Mich.; and **Paul Haight,** Cresco. Electronic metal locator in practice—**Dr. D. W. Rawson,** Milledgeville, Ill. Bovine sterility and pregnancy display—**Dr. John Herrick,** Ames.

s/N. A. WAGGONER, *President.*

Kansas

Southeast District.—The Southeast District of the Kansas Veterinary Medical Association met on May 14 in the Chanute Saddle Club, Chanute. The meeting opened with a light supper prepared by Dr. and Mrs. B. D. Winters and Dr. Winter's assistant. **Dr. M. A. Schooley,** Armour & Co. Research Laboratories, spoke on ketosis and illustrated his talk with a color film. **Dr. Ben Shambaugh, Jr.,** Burlington, reported an interesting case of chronic ergotism in beef cattle.

s/K. M. CURTS, *Resident Secretary.*

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The Fourth of Five.—Joanne Gross, recently graduated from the School of Veterinary Medicine at Kansas State College, was that school's only girl student this past year. However, she did not feel out of place as she has three brothers practicing veterinary medicine and another, Robert, who is a junior at the Kansas State veterinary school.

She plans to work a year or two with her brothers, William and Glenn, in Jacksonville, Ill., and then establish her own practice, preferably in California. Another brother, Dean Rollin, is practicing in San Francisco.

Dr. Joanne Gross and a patient.

As a student, she was required to treat both large and small animals in the school laboratories, but Dr. Gross hopes to specialize in treating small animals in her own practice.

Parents of the 4 veterinarians are Mr. and Mrs. Norman J. Gross of Russell.

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Sedgwick County Association.—The Sedgwick County Veterinary Medical Association met in the Stockyards Hotel in Wichita on May 8. **Dr. J. E. Mosier,** Kansas State College, discussed virus diseases in small animals. A lengthy question and answer period concluded the meeting.

s/K. M. CURTS, *Resident Secretary.*

Manitoba

Death of Dr. H. N. Thompson.—On April 20, 1953, death closed the long and useful career of Dr. Henry N. Thompson of Virden. As a token of respect, the flags in his town were flown at half-mast for three days. He was born at St. Thomas, Ont., in 1876 and came west with his family to homestead in 1883. His passing marks the end of an era during which the source of all rural power was the horse.

After graduation from Ontario in 1905, and the McKillip Veterinary College in 1906, he first practiced at Waskada. Then for a few years he worked with the Dominion Health of Animals Branch. In 1912, he established himself at Virden where he conducted an extensive mixed practice for more than forty years, recently in partnership with his youngest son. This experience provided a background for the development of a sound approach to the subject of animal nutrition in relation to many common diseases of livestock. He also did some highly successful work on the prevention of joint ill in foals, for which older horsemen will remember him. Not the least of his contributions to the profession consists of three sons, all graduates of the Ontario Veterinary College and all following successful careers: Dr. K. H. Thompson ('31), of Murrayville, B.C.; Dr. S. N. Thompson ('36), of Penticton, B.C.; and Dr. D. C. Thompson ('42), who carries on the practice.

Dr. Thompson gave of his energy freely to his townsfolk as well as to his clientele. He was a councillor on two occasions and served as mayor from 1919-1921, 1942-1946, and finally, by acclamation, from 1952 until his death. He was active in his local agricultural society and chamber of commerce, and was a member of more than one fraternal order. His first wife died in 1944. His widow continues to reside in Virden.

s/ALFRED SAVAGE.

Massachusetts

Dr. Raymond F. Witt and Wife Killed in Plane Crash.—Dr. (OSU '31) and Mrs. Raymond F. Witt, of Worcester, and two companions were killed in the crash of a light plane piloted by Dr. Witt near Big Spring, Texas, on April 30, 1953. The four were taking part in a mass cross-country flight from Philadelphia to California and cracked up in a blinding sand storm on Webb air force base near Big Spring. Press dispatches said the plane burned following the crash.

Dr. Witt was in small animal practice.

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Animal Hospital Recognized by Business Leaders.—The Angell Memorial Animal Hospital has twice recently been given recognition by Boston business leaders. The Old Colony Trust Company's advertisement in several Boston newspapers shows a picture of the present hospital and also a picture of the original home of the Massachusetts Society for the Prevention of Cruelty to Animals in 1868. It states that the hospital has cared for more than 1,000,000 animal patients. The First National Bank also honors the Massachusetts S.P.C.A. with a picture of the founder, George T. Angell, on its advertising blotters.

Michigan

Southeastern Association.—The Southeastern Michigan Veterinary Medical Association met in the Herman Keifer Hospital, Detroit, on May 14. The guest speaker was **Dr. D. K. Detweiler** of the University of Pennsylvania, whose subject was clinical diagnosis and treatment of heart diseases in dogs.

s/GILBERT MEYER, *Secretary.*

Minnesota

Southwestern Association.—The Southwestern Minnesota Veterinary Medical Association met in New Ulm on April 29. **Dr. C. W. Gray,** Norden Laboratories, Lincoln, Neb., discussed the new vaccines for hog cholera and the vaccination of swine against swine erysipelas. About 45 veterinarians were in attendance.

The following officers were elected: Drs. R. J. Tobola, Jackson, president; R. W. Rieke, Fairmont, vice-president; and L. E. Fredrickson, Minneapolis, secretary-treasurer. Dr. L. D. Mersch, Fairfax, was elected to the board of trustees.

s/HENRY J. GRIFFITHS, *Resident Secretary.*

Missouri

Kansas City Association.—**Dr. Rue Jensen,** Colorado A. & M. College, Fort Collins, was guest speaker at the May 19 meeting of the Kansas City Veterinary Medical Association. He discussed necrobacillosis, with illustrations.

s/J. C. DAVIS, *Secretary.*

Dr. Quin Addresses Rotary Club.—**Dr. A. H. Quin,** Kansas City, Mo., discussed foot-and-mouth disease and showed the BAI film, "Outbreak," at the May 13 meeting of the Rotary Club of Olathe, Kan. The talk was well received and created some interesting discussion. Dr. Dennis Coughlin, of the BAI in Topeka, was also present.

Nebraska

Dr. George New State Veterinarian.—Dr. John L. George (KSC '32) was appointed state veterinarian of Nebraska by Governor Crosby in January, 1953. He succeeds Dr. E. P. Anderson, formerly of Loup City. Dr. George is past-president of the Nebraska State Veterinary Medical Association, chairman of the Board of Veterinary Examiners, a member of Kappa Phi and Gamma Sigma Delta honorary fraternities, and of the AVMA.—*Norden News, March-April, 1953.*

New Jersey

Metropolitan Association.—At the April 15 meeting of the Metropolitan Veterinary Medical Association, the following officers were elected for the 1953-1954 year: Drs. Sydney Rosenberg, Newark, president; L. Everett Estler, Arlington, vice-president; and Myron S. Arlein, Maplewood, secretary-treasurer. The new officers were installed at the conclusion of the annual dinner dance on May 20 in Millburn.

s/MYRON S. ARLEIN, *Secretary.*

New York

New York City Association.—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held at the New York Academy of Sciences on May 13, 1953. After the motion picture, "About Beagles," was presented, **Mr. Granville B. Jacobs,** manager of personnel and training, General Foods Sales Division, General Foods Corp., New York City, presented a paper on "Customer Relations in Business and Professions," and **Mr. Joseph N. Linderman,** Bureau of Internal Revenue, New York City, presented a paper on "The Veterinary Profession Income Tax Problems."

The following guests were introduced: Drs. David Barsky, Edward Baker, Fred J. Wigderson, Capt. F. A. Hunter, Capt. H. S. McMurray, Lt. L. W. Turner, Lt. H. Marks, and Capt. D. W. Gill.

s/C. R. SCHROEDER, *Secretary.*

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New York State Veterinary College Honor Day Exercises.—The annual Honor Day exercises of the New York State Veterinary College were held April 28, 1953, in Willard Straight Hall. **Dr. Deane W. Malott,** president of

Cornell University, presented the following awards:

The Borden Veterinary Scholarship Award ($300) to the member of the fourth year class who attained the highest scholastic record in all veterinary studies for the first three years: Joseph E. Croshaw, Jr.

The Horace K. White Prizes for the students whose academic records for the entire veterinary course are highest: Joseph E. Croshaw, Jr., first ($75); Joseph L. Thorne, second ($25); Robert L. Chandler and Aaron L. Shor, honorable mention.

The Jane Miller Prizes for the best work in veterinary physiology: Gerald J. Sacks, first ($25); John R. Alexander, second ($15); William L. Johnston and Lee A. Wallace, honorable mention.

The Charles Gross Bondy Prizes for the best work in the courses in practical medicine and surgery of the small animals: Charles E. Hall, first ($25); Arthur O. Lindblom, Jr. ($15); William F. Stack, honorable mention.

The Anne Besse Prize for the best work in medicine and clinical diagnosis: Charles E. Hall, first ($25); Arthur Motta, second ($15); Patrick C. Buckley and William F. Stack, honorable mention.

The James Gordon Bennett Prize for the students who show the greatest humaneness in handling animals, with special reference to the use of anesthesia: Joseph L. Thorne, first ($25); Francis A. Simpson, second ($15); Robert L. Chandler and Robert P. Lunna, honorable mention.

The Mary Louise Moore Prize for the best work in bacteriology: Joseph E. Croshaw, Jr. ($40).

The Poultry Disease Essay Prize for the best essay on a topic in the field of poultry diseases: Aaron L. Shor ($50).

The Machado Prize to the member of the fourth year class who has shown the greatest aptitude in the study of diseases of poultry in the classroom and laboratory: Aaron L. Shor ($50).

The Alpha Psi Prize to the member of the graduating class who has shown by his scholarship, character, and breadth of interest that he is best equipped to advance the standards of veterinary science: Joseph L. Thorne ($25 U. S. savings bond).

The Sigma Iota Zeta Prize to the member of the graduating class who has shown the most marked over-all improvement since his freshman year: Richard W. Harter ($25 U. S. savings bond).

The New York State Veterinary Medical Society Prizes for the best case reports presented for publication in *Veterinary News*, the organ of the Society (members of the fourth year class are eligible to compete); Mary H. Ford, first ($25); Richard W. Harter, second ($15); Lewis A. Goldfinger, third ($10); Charles E. Hall and George W. Sumner, Jr., honorable mention.

The New York State Veterinary Medical Society Award for outstanding achievement in the veterinary R.O.T.C. course: Joseph E. Croshaw, Jr., first; Aaron L. Shor, second.

New York State Veterinary College Award Winners, 1953

Front row (left to right)—Joseph E. Croshaw, Jr., Richard W. Harter, Rev. Edward T. Horn, III, pastor, Trinity Lutheran Church, Philadelphia; guest speaker, Deane W. Malott, president, Cornell University; Miss Mary H. Ford, Aaron L. Shor, and Lewis A. Goldfinger.

Back row (left to right)—Joseph L. Thorne, Arthur Motta, Charles E. Hall, Francis A. Simpson, Russell D. Williamson, Arthur O. Lindblom, Jr., William J. Twining, and Edward W. Stewart.

The General Ralph Hospital Award to the honor student in the graduating class: Russell D. Williamson ($25).

The Colonel George S. Smith Award for interest and outstanding participation in the summer camp training: William J. Twining ($30).

The Sons of the American Revolution Award for leadership, soldierly bearing, and excellence in the theoretical and practical work in the advanced R.O.T.C. course: Edward W. Stewart.

Distinguished military students: Robert W. Dellers, Garth A. Murray, Henri C. Marsh, Donald J. Newman, and Edward W. Stewart.

s/W. A. HAGAN, *Dean.*

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Dr. Harry Sutton Memorial.—Gifts totaling nearly $1,600 have been reported by the Unadilla Rotary Committee for the Dr. Harry W. Sutton Memorial Fund. Dr. Sutton, whose death occurred in July, 1952, was president (1945) of the Catskill Mountain Veterinary Medical Society, founder and active member of the United Breeders Coöperative Inc., and charter member and treasurer of the Unadilla Rotary Club. He served as a member of the Board of Education of the Unadilla Central School for eighteen years, thirteen as president.

In view of his many activities in the community and in his profession, it was thought advisable to arrange a memorial fund in his honor, and $550 has already been forwarded to the National Cancer Foundation in his memory. The balance of the fund provides for a bronze tablet, suitably inscribed, to be placed in the main hall of the new school building and, in addition, a scholarship fund with an annual prize of $50 to the student of the Unadilla Central School with best scholarship in science courses, preference being given to the students planning to study argiculture or veterinary medicine.

Both the United Breeders Coöperative and N.Y.S. Artificial Breeders Coöperative Inc., as well as many friends have made generous gifts to the fund making possible a permanent and well-deserved memorial to Dr. Harry W. Sutton. It may be of interest to friends that this fund is still open for further contributions to the scholarship.

s/S. P. DANSKY.

North Carolina

Sales Tax Exemption on Medicines.—The North Carolina State Veterinary Medical Association was recently successful in its efforts to have the 1953 state legislature pass a law exempting veterinarians from state sales tax on medicines used in the treatment of animals. In previous years, veterinarians had assumed that medicines were exempt from sales tax. However, in December, 1952, the state attorney general ruled that the exemption was by professions and that veterinarians were not included. Soon, thereafter, the state began to push the collection of sales tax in some areas, and it became evident that the state Association would have to seek relief by a new law or the cost of veterinary services to the animal owner would be increased due to the collection of the tax. State-wide coöperation of all veterinarians enabled the passage of this law despite the fact that the legislature at first was desirous of increasing the state revenue by eliminating all sales tax exemptions.

s/CLYDE W. YOUNG, *Resident Secretary.*

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Joint Meeting of Piedmont and Central Carolina Associations.—The Piedmont Veterinary Society and the Central Carolina Veterinary Association held a joint meeting in Statesville, N. Car., on April 22, 1953, at the Statesville Country Club. Dr. Ward, Iredell County Health Officer, presented an amusing and informative talk on veterinary public health problems.

s/CLYDE W. YOUNG, *Resident Secretary.*

Ohio

Miami Valley Association.—The Miami Valley Veterinary Medical Association met on March 4 in Suttmiller's Restaurant, with 53 in attendance. **Dr. H. E. Goldstein,** Reynoldsburg, spoke on infectious atrophic rhinitis; **Dr. J. R. Wynkoop,** Canal Winchester, on electric dehorning saw; and **Dr. J. B. Hay,** Chillicothe, on scrapies in sheep.

Officers of this association are Drs. Roy Ware, Sidney, president; Joe LaVelle, Troy, vice-president; and R. L. Meyer, Fort Loramie, secretary-treasurer.

s/DAVID O. JONES, *Resident Secretary.*

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Stark County Association.—On March 12, the Stark County Veterinary Medical Association met at the Onesta Hotel in Canton. The program consisted of a round-table discussion of public relations. The booth for the next county fair was also planned.

Officers of this Association are Drs. C. J. Hook, Massillon, president; M. L. Willen, Canton, vice-president; and W. B. Grigor, Hartville, secretary-treasurer.

s/DAVID O. JONES, *Resident Secretary.*

Oklahoma

Conference for Veterinarians.—The Oklahoma Veterinary Medical Association met in Stillwater on May 11-12, 1953. While this was principally a conference and short course, the Association did hold a short official meeting on May 11.

Guest speakers for the conference were **Drs. J. B. Corcoran,** Oklahoma City; **J. L. Davidson,** Upjohn Company, Kalamazoo, Mich.; **L. Foote,** Blue Cross Serum Company, Superior, Neb.; **E. R. Frank,** Kansas State College, Manhattan; **K. Gibson,** Angell Memorial Animal Hospital, Boston, Mass.; and **H. J. Hill,** veterinarian in

charge, artificial insemination program, Fort Collins, Colo.

The following staff members of the School of Veterinary Medicine of the Oklahoma A. & M. College also assisted in presenting the program: **Drs. E. L. Blevins, J. D. Friend, B. L. Glenn, E. E. Harnden, P. R. Henry, D. E. Howell, F. K. Knotts, W. H. Krull, C. H. McElroy, A. L. Malle, L. H. Moe, C. N. Murphy, H. W. Orr, D. R. Peterson, W. M. Rice, R. Rubin, G. E. Short, N. B. Tennille, D. M. Trotter, O. S. Willham,** president of the College; and **J. W. Wolfe.**

s/C. H. FAUKS, *Resident Secretary.*

Oregon

State Association.—The spring meeting of the Oregon State Veterinary Medical Association was held in Ashland on April 25. Program speakers included **Drs. W. W. Weller,** Ashland; **Robert Ormsby,** Stockton, Calif.; **S. E. Philips** and **E. M. Hanawalt,** Medford. Those in attendance enjoyed a chicken dinner and entertainment in the evening.

s/E. L. HOLDEN, *Secretary.*

Pennsylvania

Bucks-Montgomery Association.—On May 13, **Dr. E. G. Batte,** California Spray Chemical Corp., discussed sprays as insecticides at a meeting of the Bucks-Montgomery Veterinary Medical Association.

s/V. W. RUTH, *Secretary.*

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Keystone Association.—The Keystone Veterinary Medical Association held its last meeting of the 1952-1953 season at the University of Pennsylvania School of Veterinary Medicine on May 27. An interesting program was presented by **Drs. James Mark, Joseph Skelley,** and **Robert Brodey** of the staff of the veterinary hospital at the University.

s/RAYMOND C. SNYDER, *Corresponding Secretary.*

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Capital City Club Reorganized.—Veterinarians in the Harrisburg area met late in April to reorganize the Capital City Veterinary Club. The objectives of the Club are to bring to future meetings a number of outstanding authorities in the various fields of veterinary medicine and to consider and discuss current advances of professional interest, and promote a close relationship among the men engaged in the veterinary profession of this area.

At the reorganization meeting, **Dr. S. F. Scheidy,** Upper Darby, was the guest speaker. The following officers were elected: Drs. Edwin D. Tuckerman, Plymouth-Meeting, president; W. A. Troutman, Halifax, vice-president; J. Hubley Schall, Harrisburg, secretary; and Ernest Wittee, Philadelphia, treasurer. Others attending the meeting were Drs. W. P. High, Middletown; R. S. Aucker, Elizabethville; P. H. Rabin, Harrisburg; J. K. Strockbine, New Cumberland; W. E. Logan, Harrisburg; H. A. Milo, Pittsburgh; P. H. Seitz, Wrightsville; H. B. Smith, Knoxville; R. H. Alexander, Harrisburg; and C. C. Steibing, Harrisburg.

s/W. L. STARR.
J. HUBLEY SCHALL, *Secretary.*

South Dakota

Market Day for Veterinarians.—The annual Veterinarians' Market Day, which is sponsored by the Livestock Sanitary Committee and Sioux Falls Market Interests, was held on April 16, at the John Morrell Packing Company building at Sioux Falls.

Before the complimentary luncheon served to 40 veterinarians by the Morrell Packing Company, **Dr. J. B. Sigrist,** chief inspector, demonstrated inspection methods and disease specimens.

In the afternoon, a panel discussed "Shipping Fever and Its Complications." Taking part were **Drs. John DeWar,** Cherokee, Iowa; **M. C. Kromminga,** Centerville, S. Dak.; **E. D. McCauley,** Sioux City, Iowa; **J. L. Noordsy,** Marion, S. Dak.; and **Lee Railsback,** Ellsworth, Minn. **Dr. W. A. Aitken,** editor of the AVMA Journals, Chicago, served as chairman of the panel and **Mr. Harry Boyts,** livestock commissioner of Sioux City, was master of ceremonies.

Washington

Conference for Veterinarians.—The fifth annual conference for veterinarians of the Northwest was held at the College of Veterinary Medicine, State College of Washington, Pullman, April 9-11, 1953.

The following speakers contributed to the presentation of an excellent veterinary scientific

—Washington State College

Visiting speakers at the fifth annual conference for veterinarians, State College of Washington (left to right)—Drs. O. H. Muth, R. D. Turk, J. W. Safford, and P. M. Hinze.

program: **Drs. O. H. Muth,** Department of Veterinary Medicine, Oregon State College, Corvallis; **R. D. Turk,** Department of Parasitology, Texas A. & M. College, College Station; **G. P. Talbot,** practitioner, Kelowna, B. C.; **J. W. Safford,** Veterinary Research Laboratory, Montana State College, Bozeman; **P. M. Hinze,** Carnation Farms, Carnation, Wash.; and faculty members of the State College of Washington: **Drs. E. C. Stone, G. R. Spencer, S. G. Kensy, T. Moll, G. H. Keown, R. L. Ott, C. M. Bemis, D. M. Fluharty, J. C. Knott,** and **M. E. Ensminger.**

—Washington State College

Drs. G. P. Talbot and G. H. Keown preparing a demonstration for visiting veterinarians at the fifth annual conference for veterinarians, State College of Washington.

In addition, there was a program arranged for the visiting veterinarians' wives by the AVMA student auxiliary and the faculty wives of the College of Veterinary Medicine.

The total attendance was about 150.

A banquet and dance was enjoyed by the group on the evening of April 9, and dinner and recreational activities were enjoyed at the Wilson Compton Union Building on April 10.

s/R. E. WATTS.

Wisconsin

Northeastern Association.—The spring meeting of the Northeastern Wisconsin Veterinary Medical Association was held at the Elk's Club in Appleton the evening of April 21, with **Dr. A. C. Todd,** Madison, as the main speaker. He talked to the group about the control of animal parasites in veterinary practice. **Dr. W. H. Dreher,** Shawano, later presented a travelogue of Europe, illustrated with colored slides. Dr. Dreher spent several months in Europe last year, under the sponsorship of the Badger Breeders Association, studying veterinary practices in European countries. About 45 veterinarians attended the meeting.

s/WILLIAM MADSON, *Secretary.*

New Veterinary Science Building.—The Department of Veterinary Science at the University of Wisconsin held open house in the newly occupied veterinary science building on April 30, 1953. The scope and nature of the University's expanding veterinary science program was demonstrated, with emphasis on the techniques and methods of research and suppression of the various animal diseases of primary importance to the agricultural economy and to human welfare. A twelve-minute sound film in color featuring work with viruses by Sir Frank MacFarlane Burnet, 1952 Knapp visiting professor, was given its premier showing.

FOREIGN NEWS

Nigeria

Research in Poultry Production.—Research is being carried out by the Department of Agriculture, University College, Ibadan, on the problems of commercial poultry production in Nigeria. Dr. Olive S. Davis (well-known for her work on avian leukosis) of Purdue University, Lafayette, is a Fulbright visitor to the University College Department of Agriculture where she is studying local disease problems with the Division of Animal Husbandry and Health. This Division reports that 150,000 eggs have been produced by its small commercial flock since 1950 when the farm was opened up. Table birds have also been produced. Particular emphasis is being placed upon the use of local feedstuffs.

The high humidity and environmental temperature necessitate a system of management especially adapted to local conditions. Disease problems are being investigated in the Division's laboratories and in conjunction with the Government Veterinary laboratories at Vom where the serological work is carried out. Local and exotic birds and their crosses are being used. The first stage of this work is on a five-year plan, so that a detailed report is envisaged in 1955. The Nigerian Department of Agriculture has also established poultry production centers and plans an extensive program for the expansion of the poultry industry in the North.

s/DESMOND H. HILL, *D.V.M., Ibadan, Nigeria.*

Germany

The Hannover College Anniversary.—This year the Veterinary College of Hannover, one of the oldest in Europe, celebrates its 175th anniversary. It has reëstablished normal working routine after being ravaged during the war. The program to be presented July 29-31, 1953, will review the development of veterinary colleges and of veterinary medicine throughout the world. It is hoped that veterinarians on their way to the International Veterinary Congress at Stockholm, August 9-15, can arrange

to be present. Hannover is in the British zone of Germany and is easily accessible by car, rail, or airplane.

STATE BOARD EXAMINATIONS

West Virginia—The West Virginia Veterinary Board will convene at the Stonewall Jackson Hotel Clarksburg, W. Va., on Monday, Aug. 17, 1953, for the purpose of giving examinations to those desiring to register to practice veterinary medicine in the State of West Virginia. Application for examination must be in the hands of the undersigned at least ten days prior to the date set for examination. Dr. William E. Trussell, secretary, West Virginia Veterinary Board, Charles Town, W. Va.

VETERINARY MILITARY SERVICE

Colonel Starnes Assigned to Third Army Medical Section.—Colonel Mervyn B. Starnes, recently returned from the Far East Command, has been assigned as a staff veterinary officer in Third Army Medical Section. Colonel Starnes was sent overseas shortly before the outbreak of the Korean conflict and was stationed in Yokohoma, Japan, until March, 1953, when he was ordered back to the States on rotation. He was instrumental in the program that gave front line troops perishable foods such as vegetables, ice cream, etc., which had previously been unheard-of-items in combat. He served with the New Orleans Quartermaster Market Center from 1945 to 1946 and was at Johns Hopkins University from 1946 to 1947, before being assigned to the Japan Logistical Command in the Far East.

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Veterinary Students Visit Office of Army Surgeon General.—The 18 members of this year's veterinary medicine course at the Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D. C., visited the offices of the Army Surgeon General on April 1, 1953, for a briefing in the work of the Veterinary Division. The class was accompanied by Major Ralph W. Anslow, coördinator of training, Veterinary Division, Army Medical Service Graduate School.

This course is held each year for training officers of the Veterinary Corps in accepted methods of preventive medicine and animal pathology in preparation for staff and command duty. During the intensive course (Feb. to June), the students study veterinary hygiene, bacteriology, parasitology, epidemiology, inspection and control of foods, nutrition, deficiency diseases, immunology, and other subjects important to the military aspects of their specialty. Attendance by Veterinary Corps officers is limited to those in the Regular Army with the rank of captain or above. Air force veterinarians and high-ranking army veterinarians from other countries also frequently are enrolled. This year's class includes eight officers from the Army Veterinary Corps, seven from the Air Force, two from the Iranian Royal Army, and one from the Greek Royal Army.

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The Captains Grimes.—Captain George M. Grimes (TEX '43), whose wife's name is Irene, and Captain George E. Grimes, whose wife's name is also Irene, thought the difficulties of having similar names were left at Camp Kilmer, N. J., when they departed for overseas assignments, but found they were both to be stationed with units in Frankfurt, Germany. Their troubles began as they prepared to embark for overseas. Scheduled for the same shipment, George M. was removed from the shipping list because of a suspected duplication of names. After much explaining, he was again added to the list and they departed without further complications.

They met again at temporary quarters in the Excelsior Hotel, Frankfurt, after proceeding from Bremerhaven with different shipments. George E. is now assigned to the 7853rd Quartermaster Procurement Center and George M. is with the 907th Medical Detachment of the Veterinary Food Inspection Center in Frankfurt.

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Veterinary Corps Heads Speak at Conference.—On April 23-24, 1953, **Brigadier General Jacob L. Hartman,** V.C., chief of the Veterinary Division, Office of the Army Surgeon General, spoke at the annual veterinary conference of the Fifth Army and sessions of the training conference for Fifth Army veterinarians on the use of the revised "Military Standard for Veterinary Inspection Procedures." General Hartman was accompanied by **Colonel G. L. Caldwell,** who discussed personnel problems of the Veterinary Corps, and **Colonel Russell McNellis,** who spoke on Veterinary Corps meat and dairy inspection service. Colonel John L. Owens presided.

The course is to acquaint key personnel of the Fifth Army area with the latest changes and developments in all phases of Veterinary Corps inspection activities and procedures.

BIRTHS

Dr. (COR '39) and Mrs. J. J. McCarthy, West Palm Beach, Fla., announce the birth of a daughter, Susan Jean, on Feb. 9, 1953.

Dr. (TEX '41) and Mrs. K. M. Curts, Kansas City, Kan., announce the adoption, on Feb. 24, 1953, of Roger Lloyd who was born Jan. 17, 1953.

Dr. (KSC '51) and Mrs. Edward J. Moore, Beatrice, Neb., announce the birth of a son, Marcus King, on Feb. 28, 1953.

Lieutenant (OSU '51) and Mrs. Charles F. Reed, Seneca Falls, N. Y., announce the birth of a son, Scott Hayward, on March 11, 1953.

Dr. (PA '25) and Mrs. Charles E. Flaxman, Darien, Conn., announce the birth of a daughter, Cheryl Anne, on March 16, 1953, at St. Francis Hospital, Miami Beach, Fla.

Dr. (KSC '40) and Mrs. Glenn I. Case, Kewanee, Ill., announce the birth of twins, Clark Glenn and Krisann Virginia, on April 2, 1953.

Dr. (ISC '52) and Mrs. Lenwood S. Shirrell, Frankfort, Ky., announce the birth of a daughter, Connie Sue, on April 18, 1953.

Drs. John W. (MSC '47) and Nancy Kadlec (MSC '47) Finlay, Richmond, Ky., announce the birth of a son on May 1, 1953.

Dr. (MSC '49) and Mrs. Orville Krause, Armada, Mich., announce the birth of a daughter, Karen Jean, on May 5, 1953.

Major (WSC '38) and Mrs. E. Wray Morehouse, Los Angeles, Calif., announce the birth of twin girls, Nancy Colleen and Susan Louise, on May 8, 1953.

DEATHS

★**Floyd H. Antles** (WSC '20), 55, Seattle, Wash., died May 14, 1953. Dr. Antles, a general practitioner, was a member of the Washington State Veterinary Medical Association and of the AVMA. He is survived by a daughter.

★**L. J. Blenkinsop,** London, England, died during 1952. Sir Blenkinsop was elected to honorary membership in the AVMA in 1919.

Arthur Boesewetter (CVC '08), Jackson, Wis., died recently. Dr. Boesewetter was a general practitioner. A monetary gift was sent to the Research Fund as a memoriam to Dr. Boesewetter by several of his friends.

Alfred F. Bollinger (AVC '96), 78, Brooklyn, N. Y., died recently. Dr. Bollinger was a general practitioner. He had been a member of the AVMA.

★**Bertram N. Cameron** (OSU '33), 43, Middleboro, Mass., died May 19, 1953. Dr. Cameron served as a captain in the Veterinary Corps, U. S. Army, for four years during World War II. He was a member of the Massachusetts Veterinary Association and of the AVMA.

★**Timothy L. Casserly** (USC '11), 69, Pittsburgh, Pa., died April 14, 1953. Dr. Casserly was a member of the Pennsylvania Veterinary Medical Association and of the AVMA. He is survived by his widow.

Charles R. Eno (COR '07), Red Hook, N. Y., died on Feb. 11, 1953. Dr. Eno had practiced in Red Hook for forty years. He was active in civic affairs and had served as president of the village board for several years. Dr. Eno is survived by his widow, a son, and two daughters.

★**Severin O. Fladness** (CVC '12), 68, Washington, D. C., died May 5, 1953. An obituary appears on page 75 of this JOURNAL. Dr. Fladness was a member of the AVMA.

★**Frederick J. Fritchen** (CVC '15), 65, Franksville, Wis., died March 16, 1953. Dr. Fritchen was a member of the Wisconsin Veterinary Medical Association and of the AVMA. He is survived by his widow.

★**John H. Gillmann** (STJ '17), 60, Memphis, Tenn., died May 17, 1953. Dr. Gillmann served as a major in World War I. He had practiced and served as manager of the Jensen-Salsbery Laboratories (Memphis branch) since 1931. He had served as president of the Southern States Veterinary Medical Association and the Tennessee Veterinary Association and was a Shriner and a member of the Kiwanis Club. Dr. Gillmann is survived by his widow and a son.

He joined the AVMA in 1926, and was elected third vice-president for 1938-1939 and served as general chairman of the Committee on Local Arrangements for the Seventy-Sixth Annual Convention held in Memphis, Tenn., in 1939.

Homer L. Hanna (TH '18), Kinmundy, Ill., died April 21, 1953. Dr. Hanna had practiced in Kinmundy for thirty-four years. He is survived by a son, Homer D., who is a senior at the Michigan State College School of Veterinary Medicine.

Charles N. Hook (KCV '10), Braymer, Mo., died April 12, 1953. Dr. Hook was a member of the Missouri Valley and Missouri State Veterinary Medical Associations and had been a member of the AVMA.

★**Floyd D. Hylton** (COL '10), 68, Billings, Mont., died March 14, 1953. Dr. Hylton was a member of the Colorado Veterinary Medical Association, the National Association of Federal Veterinarians, and of the AVMA.

Eugene H. Ives (ONT '03), 82, Gowanda, N. Y., died Jan. 20, 1953. Dr. Ives practiced for many years in Cattaraugus. He is survived by one son and two daughters.

★**James G. Jervis** (OVC '12), 62, Langley Prairie, B.C., died May 8, 1953. Dr. Jervis was a member of the AVMA. An obituary appears on page 76 of this JOURNAL.

Lee R. Johnston (KCV '14), Sweet Springs, Mo., died March 17, 1953, of a heart attack. Dr. Johnston was a general practitioner.

★**Major G. W. Laird** (KSC '41), 34, Kansas City, Mo., died March 6, 1953. Major Laird was a member of the AVMA. He is survived by his widow.

Howard L. Lawrence (COR '05), Cincinnatus, N. Y., died Jan. 25, 1953. Dr. Lawrence had practiced for forty-seven years in Cincin-

★ Indicates members of the AVMA

natus. He is survived by his widow and three sons.

★**Harry B. Leonard** (CIN '05), 73, Albany, N. Y., died March 16, 1953. Dr. Leonard had been inactive since his retirement several years ago as U. S. BAI inspector in charge in New York State. In this capacity, he was one of the master minds in the bovine tuberculosis eradication program. Dr. Leonard was a member of the AVMA. He is survived by his widow, two sons, a daughter, and six grandchildren.

Nelson R. Liner (COR '33), Brighton, N. Y., died Feb. 4, 1953, of injuries received in automobile accident. Dr. Liner was assistant to the chief surgeon of the Society for the Prevention of Cruelty to Animals in New York City for some time. Later he practiced in Rochester. Dr. Liner is survived by his widow, a daughter, and a son.

★**John E. McLean** (OVC '32), 46, Halifax, N. S., died Feb. 21, 1953, of a heart attack. Dr. McLean was a member of the AVMA. He is survived by his widow.

Floyd L. Marney (KCV '11), 65, Comfort, Texas, died April 7, 1953. Dr. Marney practiced until 1917, at which time he became interested in the canning industry. Thereafter he retired to an already developed activity of farming and livestock husbandry. Since 1934, he was interested in ranching and stock raising. Dr. Marney is survived by his widow, a daughter, a grandson, and a brother, Dr. U. E. Marney of San Antonio, Texas.

★**W. Walter Martin** (UP '95), 80, Spring Lake, N. J., died Feb. 27, 1953. Dr. Martin was a member of the AVMA.

★**Harold K. Miller** (UP '39), 36, Lebanon, Pa., died Jan. 8, 1953. Dr. Miller served in the Veterinary Corps, U. S. Army, during World War II. He is survived by his widow.

Dr. Miller was admitted to the AVMA in 1939.

Emery E. Nelms (CVC '16), Smithfield, N. Car., died March 13, 1953. Dr. Nelms had practiced in Smithfield since 1928.

★**Guy E. Pace** (CVC '18), 56, Marianna, Fla., Feb. 12, 1953. Dr. Pace was a general practitioner. He was a member of the Florida Veterinary Medical Association and of the AVMA.

Marlain A. Peck (KCV '04), 74, Fort Worth, Texas, died April 18, 1953. Dr. Peck first came to Fort Worth in 1909 as a meat inspector for the federal government. He later established a practice, which he maintained until recently. He was a past-president of the Texas Veterinary Medical Association and a member of the State Board of Veterinary Examiners. Dr. Peck is survived by his widow and a son.

Charles F. Rathbun (KCV '10), Bridgewater, S. Dak., died April 3, 1953. Dr. Rathbun had retired from the U. S. Bureau of Animal Industry.

John C. Reiber (IND '13), Zionsville, Ind., died April 29, 1953.

Burton R. Rogers (ISC '99), 74, Longbeach, Calif., died Dec. 20, 1952. Dr. Rogers was a meat inspector with the U. S. Bureau of Animal Industry until 1906 when he became a faculty member of the School of Veterinary Medicine at Kansas State College. Later he was dean of St. Joseph Veterinary College. Dr. Rogers had been a member of the AVMA.

C. P. Schneider (MCK '13), 66, Sioux Falls, S. Dak., died in December, 1952. Dr. Schneider had been a member of the AVMA.

Warren E. Severn (OSU '02), 73, Phoenix, Ariz., died Jan. 15, 1953. Dr. Severn retired from practice several years ago.

N. A. Skarstad (CHI '14), 64, Rushford, Minn., died Jan. 21, 1953. Dr. Skarstad had retired in 1948 due to poor health.

William G. Strothman (CIN '16), 74, Brookville, Ind., died March 14, 1953. Dr. Strothman, a general practitioner, had been a member of the AVMA.

Henry N. Thompson (MCK '06), 77, Virden, Man., died April 20, 1953. An obituary appears on page 78 of this JOURNAL.

William A. Till (API '44), 31, Luverne, Ala., died Feb. 7, 1953. Dr. Till served in the U. S. Army and had been recently discharged. He had been a member of the AVMA.

★**O. W. Tillman** (KCV '09), 76, Trenton, Mo., died April 23, 1953. Dr. Tillman had practiced in Trenton since 1928. He was a member of the Missouri Veterinary Medical Association and of the AVMA. He is survived by his widow, a son, and a granddaughter.

John R. Upton (SF '16), Arcadia, Calif., died March 5, 1953. Dr. Upton had specialized in equine practice.

★**Raymond F. Witt** (OSU '31), 46, Worcester, Mass., died April 29, 1953, when a plane he was piloting crashed (see p. 79). Dr. Witt is survived by three sons and a daughter. He was a member of the AVMA.

★**Arthur J. Wahn** (CIN '11), 61, San Francisco, Calif., died March 18, 1953. Dr. Wahn was a meat inspector with the U. S. Bureau of Animal Industry. He was a member of the National Association of Federal Veterinarians and of the AVMA.

★**Harold L. Watson** (GR '15), 59, Montpelier, Vt., died March 31, 1953. Dr. Watson spent most of his life in and about Montpelier. During the last few years, he had specialized in small animal practice, partly because of a heart ailment which forced him to slow up. He was always very considerate of both his patients and their owners. He was a member of the AVMA, state and regional veterinary associations, and various civic clubs. Dr. Watson is survived by his widow, his mother, and two sons.

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COMING MEETINGS

Notices of Coming Meetings must be received by 4th of month preceding date of issue

Kentucky Veterinary Medical Association. Annual summer meeting. Seelbach Hotel, Louisville, Ky., July 8-9, 1953. T. J. Stearns, Room 216, Live Stock Exchange Bldg., Louisville, Ky., secretary.

American Veterinary Medical Association. Annual meeting. Royal York Hotel, Toronto, Ont., July 20-23, 1953. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.

Northwest Veterinary Medical Association. Annual meeting. Davenport Hotel, Spokane, Wash., Aug. 10-12, 1953. J. L. Ellis, Olympia, Wash., secretary.

Oregon State Veterinary Medical Association. Summer meeting. Spokane, Wash., Aug. 11-13, in conjunction with the Northwest Veterinary Medical Association. E. L. Holden, Oswego, Ore., secretary.

Colorado Veterinary Medical Association. Annual meeting. Greeley, Colo., Sept. 10-11, 1953. Paul D. Pattridge, Rt. 1, Box 387-A, Golden, Colo., secretary.

New York State Veterinary Medical Society. Annual meeting. Hotel Syracuse, Syracuse, N. Y., Sept. 14-16, 1953. J. S. Halat, 803 Varick St., Utica, N. Y., acting executive secretary.

Alabama Annual Conference for Veterinarians. School of Veterinary Medicine, Alabama Polytechnic Institute, Auburn, Ala., Sept. 17-19, 1953. R. S. Sugg, dean.

U. S. Livestock Sanitary Association. Annual meeting. Haddon Hall, Atlantic City, N. J., Sept. 23-25, 1953. R. A. Hendershott, 1 West State St., Trenton 8, N. J., secretary.

West Virginia Veterinary Medical Association. Fall meeting. Daniel Boone Hotel, Charleston, W. Va., Oct. 4-5, 1953. Elvin R. Coon, 98 Capitol Building, Charleston 5, W. Va., secretary.

Purdue University. Annual short course for veterinarians. Purdue University, Lafayette, Ind., Oct. 7-9, 1953. L. M. Hutchings, chairman.

Georgia Coastal Plain Experiment Station. Annual short course for veterinarians. Georgia Coastal Plain Experiment Station, Tifton, Ga., Oct. 12-13, 1953. Peter H. Langer, secretary.

Pennsylvania State Veterinary Medical Association. Annual meeting. Roosevelt Hotel, Pittsburgh, Pa., Oct. 14-16, 1953. R. C. Snyder, Walnut St. and Copley Rd., Upper Darby, Pa., secretary.

Eastern Iowa Veterinary Association. Annual Meeting. Hotel Montrose, Cedar Rapids, Iowa, Oct. 15-16, 1953. Wayne W. Thompson, Earlville, Iowa, secretary.

New England Veterinary Medical Association. Annual meeting. Hotel Viking, Newport, R. I., Oct. 18-20, 1953. C. Lawrence Blakely, 180 Longwood Ave., Boston 15, Mass., secretary.

South Dakota Veterinary Medical Association. Annual meeting. Cataract Hotel, Sioux Falls, S. Dak., Oct. 21-22, 1953. R. M. Scott, 2419 S. Main St., Sioux Falls, S. Dak., secretary.

Southern Veterinary Medical Association. Annual meeting. Atlanta Biltmore Hotel, Atlanta, Ga., Nov. 9-11, 1953. A. A. Husman, Raleigh, N. Car., secretary.

Animal Care Panel. Annual meeting. Billings Hospital, University of Chicago, Chicago, Ill., Dec. 2-3, 1953. The program will be ready for distribution in September and may be obtained by writing to Robert J. Flynn, Secretary, Animal Care Panel, Argonne National Laboratory, P. O. Box 299, Lemont, Ill.

New York State Veterinary College. Annual conference for veterinarians. New York State Veterinary College, Cornell University, Ithaca, N. Y., Jan. 6-8, 1954. W. A. Hagan, dean.

Kansas State Veterinary Medical Association. Annual meeting. Broadview Hotel, Wichita, Kan., Jan. 18-20, 1954, K. Maynard Curts, Kansas City, Kan., secretary.

Illinois State Veterinary Medical Association. Annual meeting. Morrison Hotel, Chicago, Ill., Feb. 9-12, 1954. A. G. Misener, 6448 N. Clark St., Chicago 26, Ill., secretary.

(Continued on p. 28)

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FREE – for literature giving more detailed information on Dinovex, address Dept. JA-7

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(COMING MEETINGS—*continued from p. 26*)

Regularly Scheduled Meetings

Bay Counties Veterinary Medical Association, the second Tuesday of each month. David E. Madsen, 44 South 4th St., San Jose, Calif., secretary.

Cedar Valley Veterinary Association, the second Monday of each month (except July and August) at Black's Tea Room, Waterloo. F. E. Brutsman, Traer, Iowa, secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. W. E. Smith, 516 Oatman, Sanger, Calif., secretary.

Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel in Greensboro. Mr. Earl D. Adams, Greensboro, N. Car., secretary.

Chicago Veterinary Medical Association, the second Tuesday of each month. Robert C. Glover, 1021 Davis St., Evanston, Ill., secretary.

Coastal Bend Veterinary Association (Texas), the second Wednesday of each month. J. E. Hoban, 4301 S. Port Ave., Corpus Christi, Texas, secretary.

Coon Valley Veterinary Association, the second Wednesday of each month, September through May, at the Bradford Hotel, Storm Lake, Iowa. J. R. Rosdail, Pomeroy, Iowa, secretary.

Cuyahoga County (Cleveland, Ohio) Veterinary Medical Association, the first Wednesday of each month—September through May (except January)—at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. Roger W. Grundish, 4217 Mayfield Road, South Euclid 21, Ohio, secretary.

East Bay Veterinary Medical Association, bimonthly, the fourth Wednesday. Robert Clemens, 23352 Orchard, Hayward, Calif., secretary.

Fayette County Veterinary Association, Iowa, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Florida, North-East Florida Veterinary Medical Association, the second Thursday of each month, time and place specified monthly. J. O. Whiddon, 829 San Marco Blvd., Jacksonville, Fla.

Greater St. Louis Veterinary Medical Association, the first Friday of the month at the York Hotel, Sixth and Market Streets. Luther E. Fredrickson, Room 11, Municipal Courts Bldg., St. Louis, Mo., secretary.

Houston Veterinary Medical Association, Houston, Texas, the first Thursday of each month.

(*Continued on p. 30*)

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(COMING MEETINGS—*continued from p. 28*)

Edward Lepon, Houston, Texas, secretary-treasurer.

Illinois Valley Veterinary Medical Association, the second Sunday evening of even-numbered months at the Jefferson Hotel, Peoria, Ill. S. M. McCully, Lacon, Ill., secretary.

Indiana Tenth District Veterinary Medical Association, third Thursday of each month. L. A. Snider, New Palestine, Ind., secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of each month, in Louisville or within a radius of 50 miles. E. M. Lang, 716 E. Broadway, Louisville, Ky., secretary.

Kansas City Small Animal Hospital Association, the first Monday of each month, at the Hotel Continental. T. M. Eagle, Parkville, Route 2, Mo., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month, in the Hotel Continental, 11th and Baltimore, Kansas City, Mo. K. M. Curts, 70 Central Ave., Kansas City 18, Kan., secretary.

Kern County Veterinary Medical Association, the first Thursday of each month. Richard A. Stiern, 17 Niles St., Bakersfield, Calif., secretary.

Keystone Veterinary Medical Association, the Philadelphia County Medical Society Building, 301 S. 21st Street, Philadelphia, Pa., on the fourth Wednesday of each month. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., secretary.

Kyowva Veterinary Medical Association, the second Thursday of each month in the Hotel Prichard, Huntington, W. Va., at 8:30 p.m. Karl Mayer, 1531 Fourth Ave., Huntington, W. Va., secretary.

Maricopa County Veterinary Association, the second Tuesday of each month. Charles J. Prchal, 1722 East Almeria Road, Phoenix, Ariz., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday evening of each month from September through May, at the Academy of Medicine of Northern New Jersey, 91 Lincoln Park South, Newark, N. J. Myron S. Arlein, 2172 Millburn Ave., Maplewood, N. J., secretary.

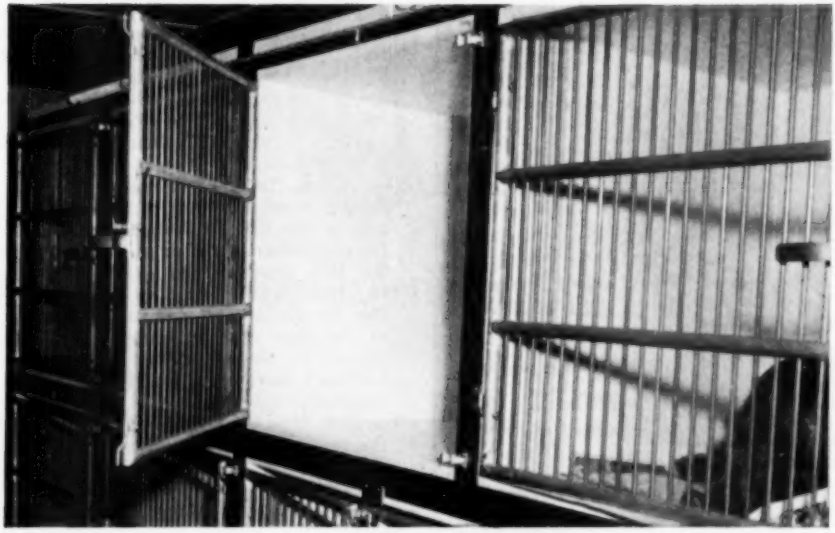
Michiana Veterinary Medical Association, the second Thursday of each month, at Hotel LaSalle, South Bend, Ind. Bruce Hostrawser, 2621 Mishawaka Ave., South Bend, Ind., secretary.

Michigan, Southeastern Veterinary Medical Society. Herman Kiefer Hospital, Detroit, Mich., the second Wednesday of each month from October through May.

(*Continued on p. 32*)

PRESENTING...

The Ultimate in Animal Cages



NOW AVAILABLE AFTER YEARS OF RESEARCH AND MONTHS OF TESTS UNDER ACTUAL OPERATING CONDITIONS, A GLASS FIBER RE-INFORCED PLASTIC CAGE BUILT TO LAST A LIFETIME.

AVAILABLE IN 3 STOCK MODELS

The R-1 — Floors slope toward back, eliminating the necessity of trays or troughs. Available in sizes 33"x 33"x29" deep, 45" wide x 33" high and 29" deep and 24"x24"x28" deep.

The R-2 — Floors slope toward front. Gutters furnished upon request. Sizes 36"x36"x28" deep and 24"x24"x28" deep.

The R-3 — Flat floors. Available with plastic trays. Sizes 36"x36"x28" deep and 24"x24"x28" deep.

Cages also made in sizes to fit your particular requirements at additional cost. Note—Since first presenting this ad, additional sizes are now available in all models.

OTHER OUTSTANDING PRODUCTS BY KIRSCHNER:

- **Intramedullary fracture equipment**
- **Kirschner external fracture equipment**
- **Mason meta splints**
- **Gordon extenders**
- **Thomas splints**
- **Improved Zephyr small animal dryers**
- **Life-time aluminum cage doors**

NOTE THESE EXCLUSIVE FEATURES:

- **Seamless**
- **Waterproof**
- **Stain proof**
- **Highly scratch resistant**
- **All cove interior corners**

The interior surface of these plastic cages is white in color, glass smooth and requires no painting. They are made in individual units so may be arranged in any manner desired to form batteries. Available with or without the Kirschner life-time aluminum door.

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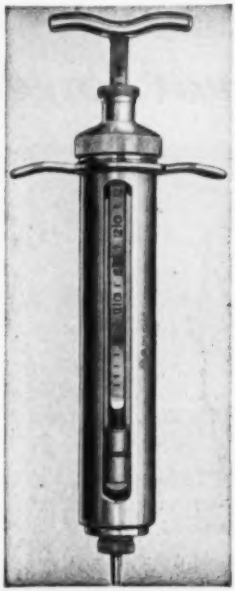
Kirschner
MANUFACTURING CO.
VASHON, WASHINGTON

Ranch Record Veterinary Syringe



Superior quality veterinary syringes—Choice of ground glass barrel with metal plunger or rubber packing—Accurate dosage and smooth operation always assured.

Inexpensive replacement parts available.

Inquire at your nearest veterinary dealer or wholesaler concerning this outstanding product.

Sizes 2 cc. to 40 cc.

Boston Record Syringes

High quality syringe consisting of graduated, ground, resistance glass barrel with nickel silver plunger and strongly constructed metal parts. No Washers—No Binding Rubber Packings to interfere with smooth operation. Easily disassembled for sterilization.

Low In Cost

Boston Record Syringes create sales for the dealer and satisfaction for the user.

Repair exchanges available.
Sizes 1 cc. to 150 cc.

Literature Upon Request

Boston Instrument Mfg. Co., Inc.

50 Thayer St., Boston 18, Mass.

(COMING MEETINGS—*continued from p. 30*)

Mid-Coast Veterinary Medical Association, the first Thursday of every even month. C. Edward Taylor, 2146 S. Broad St., San Luis Obispo, Calif., secretary.

Milwaukee Veterinary Medical Association. Wisconsin Humane Society, 4150 N. Humbolt Ave., Milwaukee, Wis., the third Tuesday of each month. Kenneth G. Nicholson, 2161 N. Farwell Ave., Milwaukee, Wis., secretary.

Mobile-Baldwin Veterinary Medical Association, the first Tuesday of each month at the Hotel Admiral Simmes, Mobile, Ala. C. Eric Kennedy, Mobile, Ala., secretary.

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. Lewis J. Campbell, 66 Marion Ave., Salinas, Calif., secretary.

New Castle County Veterinary Society, the second Wednesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. Harold Roberts, Paper Mill Road, Newark R3, Del., secretary.

New York City, Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63 St., New York City. C. R. Schroeder, Lederle Laboratories, Inc., Pearl River, N. Y., secretary.

Northern New Jersey Veterinary Association, the fourth Tuesday evening from September through June, at the Casa Mana Restaurant, Cedar Lane, Teaneck, N. J. Robert R. Shomer, 1680 Teaneck Road, N. J., secretary.

Northern San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month. Tom Hagan, Gen. Del., Escalon, Calif., secretary.

Oklahoma County Veterinary Medical Association, the second Wednesday of every month except July and August. W. C. Schilb, 4312 N. W. 23rd St., Oklahoma City, Okla., secretary.

Orange Belt Veterinary Medical Association, the second Monday of each month at 7:00 p.m. in the Antlers Hotel, San Bernardino, Calif. R. E. Hoadley, Coachella, Calif., secretary.

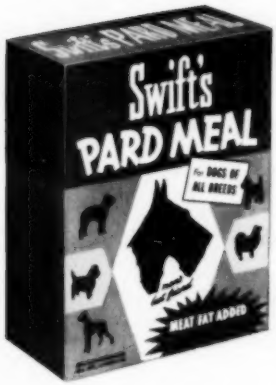
Orange County Veterinary Medical Association, bi-monthly. Donald E. Lind, 2643 N. Main, Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. P. H. Hand, Box 1035, Millbrae, Calif., secretary.

Piedmont Veterinary Medical Association, the last Friday of each month at 7:00 p.m. in Mull's Motel in Hickory, N. Car. G. V. McCranie, Hickory, N. Car., secretary.

Pima County (Arizona) Veterinary Medical Association, the third Wednesday of each month.

(*Continued on p. 34*)



One time when your experience tells you nothing...

EVERY once in a while that tried-and-true yardstick, *experience*, gets nudged aside.

Here is a case in point. Your experience tells you that it's a rare dog who really *likes* a dry-type food. Your experience tells you that even the best of dry dog foods have missed on "appetite appeal." Economical, yes. Nutritious, often. But tasty, never.

Experience tells you to be *skeptical* about a dry dog food that claims to have a "flavor dogs can't resist."

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Swift's Pard Meal is the new dry-type dog food that actually has a FLAVOR DOGS CAN'T RESIST. It's been tested and tested and proven. It's the dog meal with an appetite appeal such as you didn't believe there'd ever be.

Swift's Pard Meal contains extra amounts of rich meat fat for super energy and fuller nutrition. It's a kernel-type food, and homogenized of course. It won't flake or powder, and won't turn rancid. It's a complete diet—a dog needs nothing more.

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PARD is Swift's famous canned dog food. Here is the "granddaddy of them all"—the pioneer that for more than 20 years has led the way to today's high level of nutritional excellence in commercial dog foods. A dog needs nothing more—you can recommend nothing better than Pard.

(COMING MEETINGS—*continued from p. 32*)

in Tucson. R. W. Adami, 2103 S. 6th Ave., Tucson, Ariz., resident secretary.

Portland (Oregon) Veterinary Medical Association, the second Tuesday of each month, in the Auditorium of the Upjohn Company. Victor T. Oliver, 9705 S.W. Barbur Blvd., Portland 19, Ore., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. H. M. Strandberg, 203 D St., Petaluma, Calif., secretary.

Roanoke-Tar (N. Car.) Veterinary Medical Association, the first Friday of each month, time and place specified monthly. C. B. Randall, Kinston, N. Car., secretary.

Sacramento Valley Veterinary Medical Association, the second Wednesday of each month. S. M. Foster, 430 College, Woodland, Calif., secretary.

Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. F. Ferguson, 1702 S. Dort Highway, Flint, Mich., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. Warren J. Dedrick, 904 S. Lemon, El Cajon, Calif., secretary.

Santa Barbara-Ventura Counties Veterinary Medical Association, Friday evenings every sixth week. Dee Wodars McDermott, 5879 Hollister, Coleta, Calif., secretary.

Southern California Veterinary Medical Association, the third Wednesday of each month. R. W. Sprowl, 11756 San Vicente Blvd., Los Angeles 49, Calif., secretary.

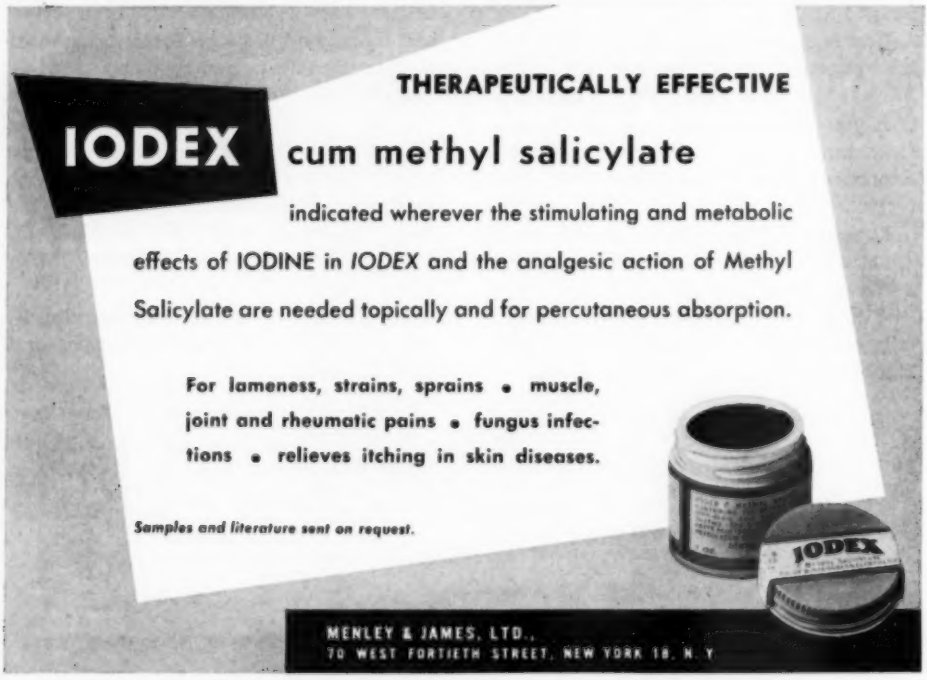
South Florida Veterinary Society, the third Tuesday of each month, at the Seven Seas Restaurant, Miami, Fla. E. A. Majilton, 1093 N. E. 79th St., Miami, Fla., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month, in Director's Parlor of the Brookside State Bank, Tulsa, Okla. John Carnes, Muskogee, Okla., secretary.

Foreign Meetings

Fifteenth International Veterinary Congress. Stockholm, Sweden, Aug. 9-15, 1953. Dr. L. de Blieck, Soestdijkseweg 113N., Bilthoven, Netherlands, secretary, Permanent Committee. (U. S. Committee: Dr. W. A. Hagan, N. Y. State Veterinary College, Ithaca, N. Y., chairman; Dr. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., secretary.)

Sixth International Congress for Microbiology. Città Universitaria, Rome, Italy, Sept. 6-12, 1953. G. Sanarelli, Città Universitaria, Rome, Italy, secretary.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Stalls Stand 6 in. off Floor.

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Ford DOUBLE FRAME Panel Runs insure SAFETY for your dogs. Chain link fabric is rust resistant, cannot be spread; permanently locked by INNER BAR FRAME. NO TIE WIRES TO RUST. Clamp together. No bolt holes to match. Portable or permanent construction.

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Wanted—Veterinarians

Veterinarian wanted to assist in mixed practice in Rocky Mountain region. Furnished house available, good wage to start. Future partnership possible. Address "Box J 1," c/o JOURNAL of the AVMA.

Veterinary assistant wanted for predominantly small animal practice in West Virginia. Could lead to permanent arrangement, percentage, partnership, or purchase. Address "Box J 3," c/o JOURNAL of the AVMA.

Veterinarian wanted by Fort Dodge Laboratories, Inc., Fort Dodge, Iowa. Be sure to read their large ad on page 44 of this issue.

(Continued on p. 38)

Veterinarians Prefer the NEW

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STEWART CLIPMASTER

NEW
More Powerful Motor . . . 25% greater speed

CLIPS
Dogs, Horses Cows, Mules faster, better

Clip your animals the fast, easy way with the new Sunbeam Stewart electric Clipmaster. Has quiet, powerful, air-cooled, ball-bearing motor inside the cool Easy-Grip handle. Anti-friction tension control assures perfect tension between blades, provides easy adjustment. $37.95 (Colorado and West $38.25).

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CALGIN is anti-acid, anti-ferment and a mild laxative. CALGIN has the same ingredients as Milk of Magnesia, combined with Sodium Thiosulphate and Aromatics.

PROVES OF SPECIAL VALUE

in treating toxic gastritis caused by consumption of young green clover, alfalfa, green corn—particularly when the animal is empty and may have an acid condition in the digestive tract.

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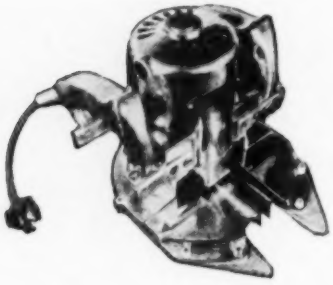
KANSAS CITY

A Sweeping Advance in Dehorning Cattle



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YES! UNIVERSAL HORN SAW is the answer for fast, safe, easy method of dehorning cattle.

Visit Booth 32 at AVMA Convention in Toronto

Wynkoop Horn Saw Co.
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(CLASSIFIED ADS—*continued from p. 36*)

Excellent opportunity for veterinarian to establish practice in western Arkansas. No veterinarian within 75 miles. Have registered beef and dairy cattle. Contact Dick Maddux, Mena, Ark.

The Virginia Division of Animal Industry wishes to employ a qualified veterinarian as director of one of its branch diagnostic laboratories. More than average training in pathology and bacteriology is essential. Address, Director of Laboratories, Division of Animal Industry, 1102 State Office Building, Richmond 19, Va.

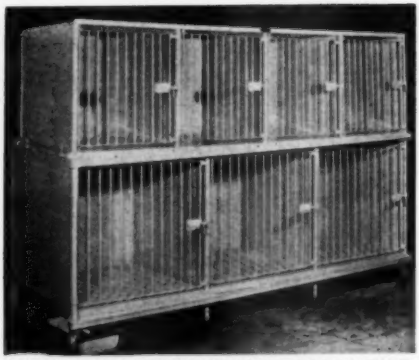
Graduate veterinarian wanted for mixed practice near Chicago. Nice clientele. Good opportunity for ambitious, capable, honest fellow. Salary plus commission. Address "Box J 13," c/o JOURNAL of the AVMA.

Veterinarian with Maryland license wanted to assume full charge of modern fully equipped small animal hospital. Excellent salary and opportunity for future gain. Large comfortable house adjoins hospital. Address "Box J 15," c/o JOURNAL of the AVMA.

Veterinarian wanted for position on staff of the Oregon Division of Animal Industry. Beginning salary $4,728 per annum, with increases to $4,920 per annum after first six months of satisfactory service. Salary increases given annually, top salary $6,384 per annum. State retirement plan, including social security benefits, are included. Write E. L. Peterson, director, State Department of Agriculture, Salem, Ore.

(*Continued on p. 40*)

DE LUXE CAGES



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Also available in removable tray style, or plain, flat floor style in 3, 5, 7, or 12 cage units.

OUR IMPROVED DOG DRYER WITH ENTIRELY TRANSPARENT DOORS AND LARGER BLOWER IS PROVING MOST SATISFACTORY TO OUR NUMEROUS USERS. MANY HAVE RECOMMENDED THEM TO THEIR FRIENDS SAYING "IT'S DOING A WONDERFUL JOB."

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DRY HEAT?

You get both *only* with

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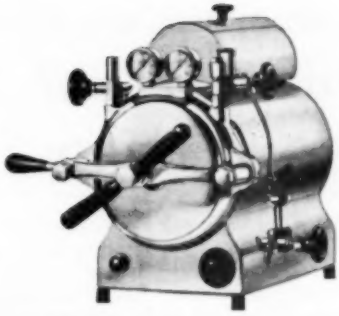
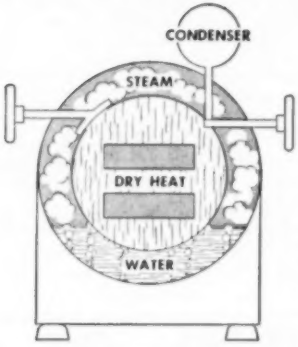


MODEL HP-2 • 8" x 16" Chamber



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To use the Pelton Autoclave as a dry heat sterilizer, you insert the instruments in the inner chamber, lock the door, close both release valves so that steam will remain in the outer chamber and not enter the inner chamber. Turn on the switch for automatic operation overnight. The load will heat to 250° F. and in the morning your instruments will be safely sterilized, dry, and ready for use.

Only Pelton Autoclaves give both pressure steam and dry heat sterilization.

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To THE PELTON & CRANE CO.
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Please mail me literature describing the Pelton Autoclaves; also free copy of your booklet, "A-B-C of Autoclaving", and address of nearby Pelton dealer.

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ANTI-HOG CHOLERA **SERUM**

HOG CHOLERA **VIRUS**

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Member Associated Serum Producers, Inc.

(CLASSIFIED ADS—*continued from p. 38*)

Veterinarians wanted for staff of small animal hospital. Permanent positions. Necessary to take New York State board examinations. Address "Box J 19," c/o JOURNAL of the AVMA.

Veterinarian wanted as assistant in small animal practice. Give full particulars first letter. New York state license or ability to qualify for examination. Dr. Alexander Slawson, 2414 Amsterdam Ave., New York 33, N. Y.

Wanted—Positions

Six years' experience in small animal medicine, surgery, and hospital management. Graduate of an approved school, 35 years of age, married, draft exempt, reliable, no bad habits. Would like to associate with progressive practitioner where there is a future. Prefer Arizona, California, or Florida, but will consider other locations. Wife's health is reason for changing locations. Give full particulars in first letter. Address "Box G 32," c/o JOURNAL of the AVMA.

Experienced recent Texas graduate desires to purchase or become partner in a good small animal or mixed practice in Texas. Can make substantial down payment. Address "Box H 2," c/o JOURNAL of the AMVA.

Veterinarian, 37, graduate University of Munich, experience in own practice in large and small animals and in artificial insemination, desires position as

(*Continued on p. 42*)

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+ QUICK AND SAFE +

in treating Splints, Spavins, Curbs, Sidebones, Inflamed Tendons, Bursal Lameness, Etc.

Single Bottle....$2.00
3 and 1 free.....5.00
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Advantages of using "M.A.C."

Can be applied in a few seconds.
Only one application in 24 hours.
Does not irritate the skin.
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Write for Descriptive Price Sheet of Veterinary Dispensing Products.

CARTER-LUFF CHEMICAL CO.
Hudson, N. Y.

Dura-Viking Syringes.

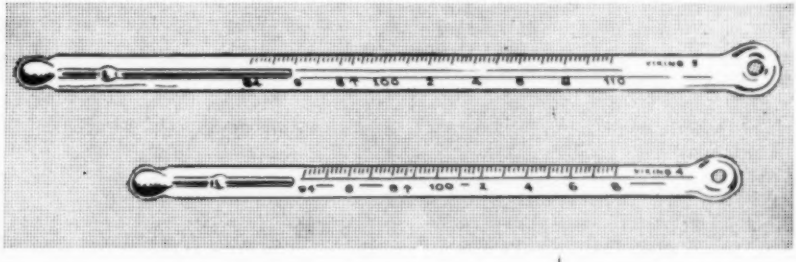
Viking Stainless Steel Needles.

What **RANFAC** *products mean to the profession*

RANFAC products are precision made of selected material, durable, well balanced and easy to operate.

RANFAC products when compared with any other veterinary instruments prove their worth. Manufactured by THE RANDALL FAICHNEY CORPORATION, noted for precision made VETERINARY, SURGICAL and DENTAL instruments for over sixty-three years.

RANFAC



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Viking Veterinary Thermometers.

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Hill's Prescription Diets for DOGS and CATS

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Nature's food for dogs and cats. Feed raw or it can be mixed raw with dry food or cereal.

For U.S. Inspected Horse Meat already cooked, feed HILL'S CANNED HORSE MEAT — ready to serve alone or can be mixed with dry or cereal food.

For general hospital feeding, use Hill's Dog Food with the Seal of Approval of A.V.M.A. and A.A.H.A. "Tested and Approved."

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Send information on therapeutic feeding ☐
Send information on other Hill products ☐

NAME.....

ADDRESS.....

(CLASSIFIED ADS—*continued from p. 40*)

assistant. Speaks English, French, and German. Will sign one year contract or longer for affidavit of support. Willing to pay own fare. Address Dr. Heinz Pfeifer, 20, Wippenhauser Strasse, Freising/Obb., Germany.

Position wanted by European veterinarian with 16 years' experience in general practice. Address "Box J 4," c/o JOURNAL of the AVMA.

Position wanted in mixed practice, or small animal hospital. Experienced; give salary and details. Would consider purchase with $10,000 maximum down payment. Address "Box J 6," c/o JOURNAL of the AVMA.

Relief work while you are on vacation. Will forward details and photograph on request. Graduate of approved school. Address "Box J 7," c/o JOURNAL of the AVMA.

English woman, M.R.C.V.S., 7 years' experience small animal practice in England would like similar position in America in a state where citizenship is not required for licensing examination. Address "Box J 11," c/o JOURNAL of the AVMA.

Desire position in mixed practice. Experienced; have equipment and car. Licensed in Pennsylvania, New Jersey, and Maryland. Address "Box J 16," c/o JOURNAL of the AVMA.

Any kind of employment wanted by a veterinarian, noncitizen. Graduate of an AVMA-recognized school. Address "Box J 20," c/o JOURNAL of the AVMA.

(*Continued on p. 46*)

Kennel Cage Units

of Wire Mesh and Metal

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Sanitary, durable, and easily maintained; galvanized materials; removable pans; hand woven wire mesh doors, maximum light and ventilation; sized for dogs and cats; removable partitions; shipped crated; easily assembled.

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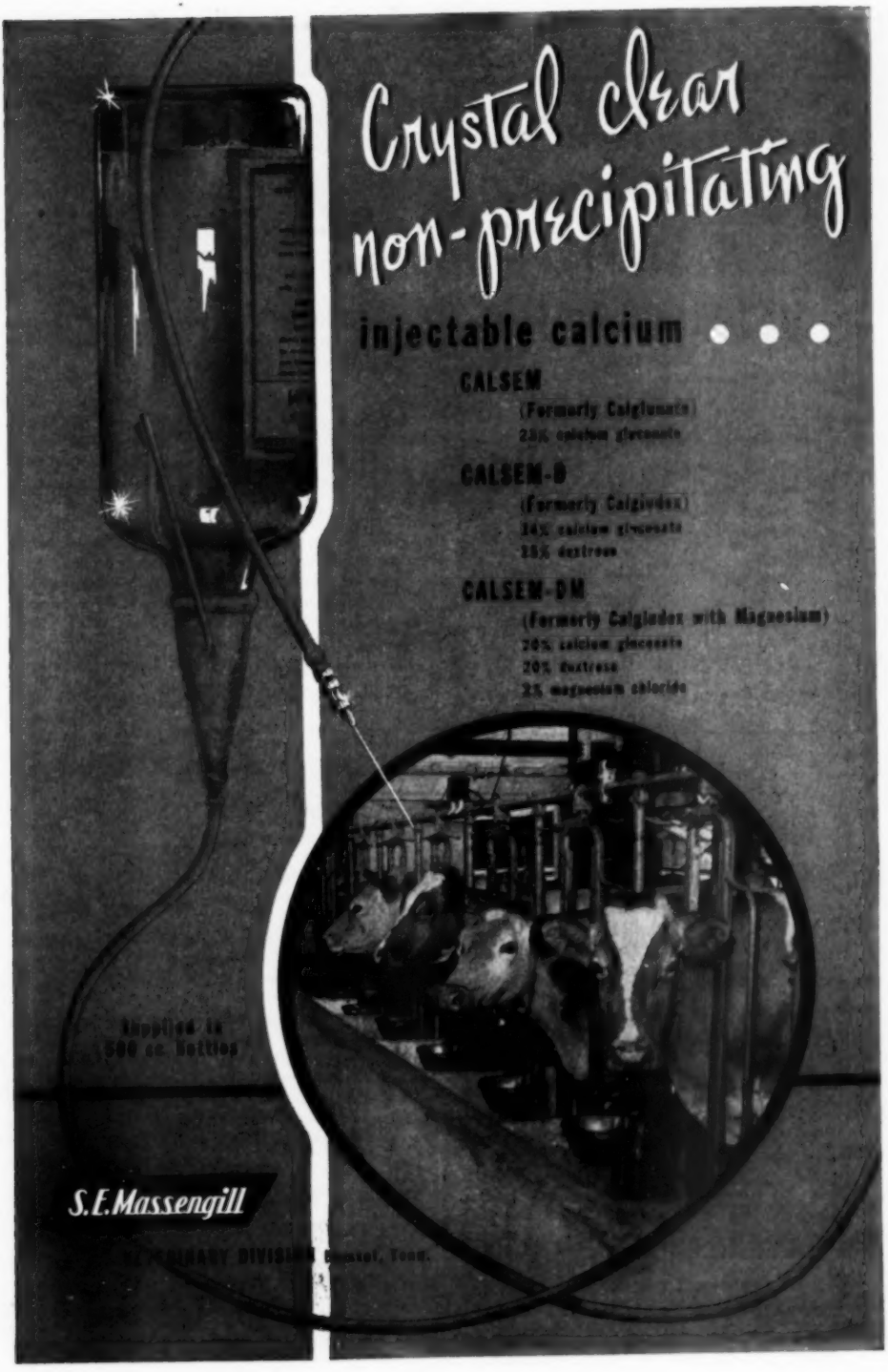
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Fort Dodge Laboratories has an opening for

A STAFF VETERINARIAN

Permanency and a worthwhile opportunity for advancement offered in this position as veterinary assistant to the director of our biological laboratory. Desirable qualifications include experience in biological production and a degree in bacteriology. Reply by letter, which will be held in strict confidence. Write direct to Dr. H. P. Lefler, Vice President, Fort Dodge Laboratories, Inc., Fort Dodge, Iowa.

Supplies Everything but Water!

Water is cheap—and it's the *only* thing you have to add to Kasco Complete Dog Ration! Kasco and water makes a complete, perfect meal for any normal dog.

KASCO MILLS, INC., TOLEDO, OHIO . WAVERLY, N.Y.

Correspondence

April 16, 1953

Dear Doctor:

Please tell me of one or more effective viricides which may be easily used in a small animal hospital. . . .

s/ C. W. W., D.V.M.

This letter was sent to Dr. E. J. Catcott, assistant director of the Department of Veterinary Clinics at the Ohio State University, for an answer. His reply is published below.—Ed.

April 28, 1953

Dear Doctor:

I believe that the most practical and still highly efficient disinfectant for veterinary hospital use is hot water. It has been observed, for example, that hot water will cause disintegration of hepatitis virus while this organism may remain alive for months in a dried state.[1]

I think that use of a chemical disinfectant often psychologically disarms hospital assistants. They tend to rely upon such an agent to the exclusion of thorough cleansing. This is an additional reason for my preference for hot water or steam disinfection.

s/ E. J. Catcott, D.V.M.

[1]Proceedings, American Animal Hospital Association, 1951.

• • •

April 29, 1953

Mr. A. M. Mathiew, Publisher,
The Farm Quarterly
Cincinnati, Ohio

Dear Mr. Mathiew:

I have been a consistent reader of the *Farm Quarterly* since its inception. Each issue is a thing of beauty and the "straight matter" is of equivalent high quality.

Somehow I felt a little "let down" to note your sponsorage of the "Veterinary Guide for Farmers." We could have no possible argument that good farmers should be well informed on the diseases of livestock. Informed clients make the best clients for veterinarians. However, any handbook having as its main purpose the "ways and means" of bypassing competent veterinary service can never be of anything but questionable value. As a good farmer you know that there are some animal disease problems, especially emergencies, that good

(continued on p. 51)

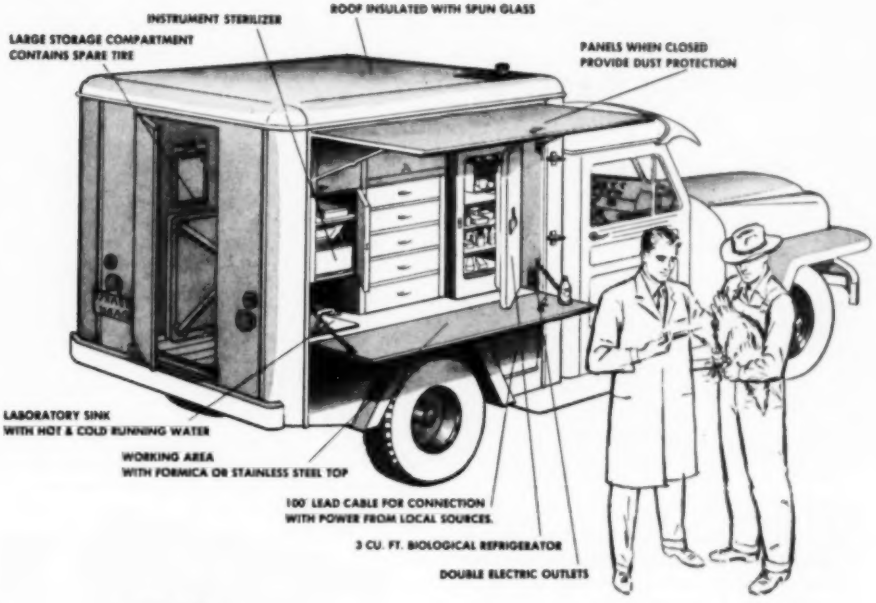
WHITE'S ANIMAL CASTRATION

A new textbook for TEACHERS, STUDENTS and PRACTITIONERS.

Price $7.50

For sale by book dealers, also by the Author, George Ransom White, M.D., D.V.M., P. O. Lock Box 901, Nashville, Tennessee.

A mobile clinic designed for the practicing veterinarian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ROOF INSULATED WITH SPUN GLASS
LARGE STORAGE COMPARTMENT CONTAINS SPARE TIRE
PANELS WHEN CLOSED PROVIDE DUST PROTECTION
LABORATORY SINK WITH HOT & COLD RUNNING WATER
WORKING AREA WITH FORMICA OR STAINLESS STEEL TOP
100' LEAD CABLE FOR CONNECTION WITH POWER FROM LOCAL SOURCES.
3 CU. FT. BIOLOGICAL REFRIGERATOR
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Equipment includes:
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One of a series of informative advertisements

Bactericidal Properties of Sanitizers for the Dairy Industry

by

WILLIAM A. HADFIELD
Technical Service Department
Pennsylvania Salt
Manufacturing Company

In the field of dairy bactericides, it is significant that the hypochlorites have retained their leadership since the era of chemical bactericides was initiated by the introduction of "B-K" hypochlorites in 1912.

This is unquestionably because no other bactericide has been developed which combines to an equal extent all three primary requirements for an acceptable dairy bactericide. Such a bactericide must (a) provide positive bacteria control under practical conditions of application, (b) have no detrimental effects on milk and dairy products, and (c) be economical to purchase and use.

Chlorine solutions prepared from B-K Chlorine-Bearing Powder in concentrations containing 200 ppm available chlorine give positive bacteria control when applied to farm dairy utensils or dairy plant equipment by rinse, flow, or spray methods.

A solution containing 200 ppm available chlorine gives a 99.9% kill within 30 seconds when representatives of the Gram positive and Gram negative groups of bacteria are used as test organisms. These results are obtained using the Johns' Glass Slide Technic and the Weber-Black method.

Bulletins and leaflets on cleaning and sanitizing all plant and farm milk equipment—including latest information on C-I-P milk lines and bulk holding tanks—are available without charge from the makers of B-K Chlorine-Bearing Powder. Write to Pennsalt Chemicals, 322 Widener Building, Philadelphia 7, Pa.

(CLASSIFIED ADS—*continued from p. 42*)

European veterinarian, graduate of Naples, Italy, presently employed BAI desires position with an established practitioner. Age 28, married, 4 years' experience especially in cattle and hog practice. New car. Excellent worker. Address "Box J 12," c/o JOURNAL of the AVMA.

Executive veterinarian experienced in various branches of veterinary medicine, particularly commercial enterprise, here and in Europe. Administrator qualified for supervision of research, product development, professional and public relations. Address "Box J 17," c/o JOURNAL of the AVMA.

Wanted—Practices

Would like to contact veterinarian, or any one interested in livestock trade as side line, in the South where grazing is outstanding. Address "Box H 11," c/o JOURNAL of the AVMA.

Wanted to lease, or lease with option to buy, busy small animal hospital in California. Excellent references; thoroughly experienced. Address "Box J 14," c/o JOURNAL of the AVMA.

Want to purchase an established mixed or large animal practice in Pacific Northwest. Will consider lease with option to buy. Am a veteran with a family and a graduate of an accredited school. Have had several years of excellent experience in general practice, and now would like to settle down per-

(*Continued on p. 50*)

Provides an accurate pattern against which to cut with knife or razor blade. Fits firmly, cannot move or slip when clamped into position. Made of non-rusting, light, cast aluminum, highly polished. Lasts a lifetime with minimum care. Simplicity of design and construction reduces possibility of breakage or mechanical failure. Forms immediately available to provide distinctive marking of these breeds:

Boxer — postpaid $15.00
Boston Terrier — postpaid $15.00
Great Dane — postpaid $15.00
Doberman — postpaid $15.00
Set of above four — postpaid $50.00

These patented "championship" forms are patterned after markings of winners of top honors in show competition. Forms for other breeds made on special order. Sold to veterinarians only. Send check or money order.

MacALLAN LABORATORIES
Route No. 2, Box 420 Lansing, Michigan

A POINT WORTH HONORING!

The point we wish to emphasize is that veterinarians, breeders, sportsmen and pet owners have made Homogenized* Gaines Meal America's largest-selling dog meal.

Appetite Appeal!

These people have obviously appreciated the keen enthusiasm their dogs show for Gaines at each daily feeding. Thanks to a unique Gaines process all ingredients of this Homogenized Meal are combined into crunchy little granules. These granules are so tempting in texture, aroma and taste, that many dogs enjoy eating the food dry. That makes Gaines Meal excellent for self-feeding methods.

More important, these dog owners are quick to realize that health factors depend greatly on the dog's diet. And it's widely known that Gaines Meal provides balanced amounts of every food essential dogs are known to need—providing the same complete nourishment in every package, every mouthful, every granule.

Product Leadership!

We shall honor this preference for Gaines by continuing to produce the finest product science and technical leadership can achieve. And we hope, by this same token, that veterinarians will continue to honor our product by recommending Gaines Meal with complete confidence. • • •

**Uniform Nourishment Guaranteed. Developed by the Gaines Laboratories. Tested at the famous Gaines Research Kennels.*

A Product of General Foods

Gaines

"Nourishes EVERY INCH of a Dog"

America's Largest-Selling Dog Meal

Now HOMOGENIZED!

For You or Against You

There can be no middle ground on this.

A veterinary supply company can decide to sell to veterinarians exclusively. Or it can decide to sell to everybody and anybody.

It can urge the public to go to the veterinarian on animal disease problems. Or it can sell direct to the public.

You know FOR SURE you are dealing with your friends when you deal with member companies of Associated Serum Producers. Each of these companies listed below sells to veterinarians exclusively . . . and helps sponsor the nation-wide public relations campaign for the profession. When you deal with these companies, you are helping protect your own interests.

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manently. Your offer will be seriously considered. Address "Box J 18," c/o JOURNAL of the AVMA.

For Sale or Lease—Practices

New brick hospital for sale in southern state. Winters mild, practice not strenuous. 70% small animals; big future in dairy work. Net $10,000 first year. Very little early morning and night work. $12,500 to handle, balance $150 per month. Address "Box D 7," c/o JOURNAL of the AVMA.

Beautiful ranch style home with clinic for sale. Mixed practice; expansion unlimited. Southern California resort town. Sell for real estate value. Terms. Address "Box F 13," c/o JOURNAL of the AVMA.

Southern California small animal hospital now at one-man capacity, for sale or lease with option to buy. No real estate. Low price, lenient terms. Address "Box W 17," c/o JOURNAL of the AVMA.

Small animal practice for sale in Chicago, including about $7,000 worth of all new equipment.

(*Continued on p. 52*)

Mastics

100,000 units penicillin
AND

Mastics P&S

100,000 units penicillin
50,000 mcg. dihydrostreptomycin

for control of **Mastitis**

Tested and proved to be highly effective, MASTICS are also more convenient, more economical to use than other forms of udder treatment. They require no special equipment —no cannula or tube—no gadgets to increase costs. And now—

NEW PRICE REDUCTIONS

Mastics

	For Veterinarians	Retail Price
package of 25	$3.50	$5.00
package of 100	13.00	19.00
package of 500	11.00*	19.00*

(*per hundred)

Mastics P&S

	For Veterinarians	Retail Price
package of 25	$4.00	$6.00
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package of 500	13.00*	23.00*

(*per hundred)

NEW QUANTITY DISCOUNT

5% discount is now allowed on all orders of 1000 or more—including mixed orders of MASTICS and MASTICS P&S (500 each).

MASTICS *save up to 49c per treatment*—a saving all farmers appreciate. Keep a large stock on hand to supply all your farmers' needs—MASTICS are available only through veterinarians (no drug or feed store competition for you)—and with the prices quoted above it's worth your while to be known as the source of supply.

The Martin Laboratories
MASTICS
Dept. R WEST CHESTER, PENNA.

Please send me a trial supply at the new low prices—

MASTICS	MASTICS P&S
____ 25 . . . $ 3.50	____ 25 . . . $ 4.00
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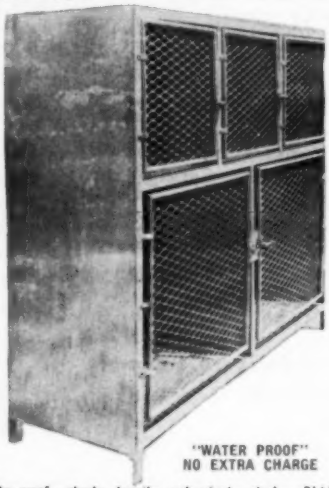
5 COMPARTMENT KENNELS
$169.50 IMMEDIATE DELIVERY



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Water-proof, sheets heavily galvanized, steel. 1½" angle steel welded frames. Doors—9 ga. 1½" steel mesh with steel tubular frame. Assembled complete. 5' 6" high. 6 ft. long. 6 in. off ground. Painted—175 in stock. Serving leading Universities.

Compare before you buy and you will agree that our kennel is excellently constructed, more costlier materials used, cheaper in price and you actually save from $25.00 to $75.00 for the same kennel constructed elsewhere. Each compartment has drain gutter, no standing water. All floors are flush for easy cleaning. Over 3,000 satisfied customers.

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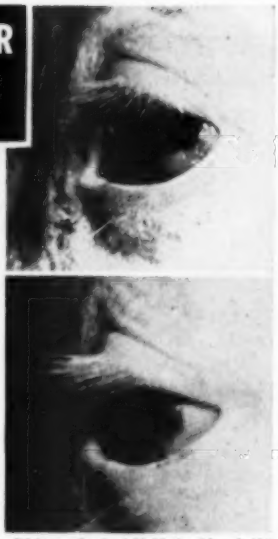
2601 N. Campbell Ave., RE 7-3300, Chicago 24, Ill.

STRONTIUM MEDICAL APPLICATOR
...for Beta Ray Therapy



Tracerlab's unique Strontium Medical Applicator is a simple, compact instrument which allows *beta* rays to be used in the treatment of such eye conditions as corneal inflamatory lesions of dogs and superficial ocular neoplasms of horses and cows.*

The applicator's source of *beta* radiation, Strontium-90, has a half life of about twenty-five years and gives a dosage rate of between 35 and 45 Roentgens-beta-equivalent per second at the surface of the applicator. A 4" D. x ¼" sliding plastic shield protects the user's hand. The applicator is housed in a walnut case having a source shield; a second, portable shield is provided to hold the instrument when out of the case.

The standard RA-1A Strontium Applicator contains a forty millicurie source, but may be ordered with strengths of up to one hundred millicuries, upon approval of the United States Atomic Energy Commission.

We will be happy to send a copy of *"Beta Ray Therapy in Ocular Diseases of Animals"** on request and to supply appropriate A.E.C. forms with instructions for completing them.

* *Beta Ray Therapy in Ocular Diseases of Animals,* Catcott, et al; Journal A.V.M.A., March, 1953; p. 172-175.

Photos - Jrnl. A.V.M.A., March '53

Tracerlab® INC.
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(CORRESPONDENCE—*continued from p. 44*)

livestock men should be trained to handle. Conversely, there is a wide bracket of disease control measures, including treatments, that should always be placed in the hands of veterinarians.

In your fly leaf about the book, some statements are made that are, to say the least, unfortunate. For example: "You can refer to the special diagnostic chart and in less than a minute's time identify a sickness or a disease and learn just what action to take." If this statement is half true we should close up our 17 veterinary colleges. In my own case, after four years in college and thirty-two years of experience I have never been able to hit anywhere near 100 per cent on diagnosis, even with laboratory assistance. If it is all as easy as using the chart, let's get up a simple diagnosis chart for urban families and eliminate physicians.

To the best of my knowledge, neither of the authors of the "Veterinary Guide" have ever practiced veterinary medicine. Much of the information given in the book is of a "horse and buggy" standard, judged by present day concepts of veterinary practice.

The "Veterinary Guide's" heart-breaking regret about a veterinary shortage is not well taken. All leading livestock states are quite well staffed with graduate veterinarians. Your own state of Ohio has some 700 active practitioners. Approximately a thousand veterinarians with six years of college behind them are graduating annually. The shortage mainly exists in marginal livestock areas where books like the "Guide" and the "animal-health-and-remedy" industry have made veterinary practice unattractive.

Control of animal disease losses in the United States is a whale of a problem, a problem that is growing more complex year by year. The veterinary profession needs and merits the full support of leading farm journals. I'm sure too that farm journals need the support and coöperation of the veterinary profession.

I know that you and your fine staff are sincerely interested in advancing the livestock industry. Permit us to pledge the full coöoperation of our committee at all times.

Very truly yours,
AVMA Committee on Public Relations
A. H. Quin, D.V.M., *Chairman.*

• • •

April 23, 1953

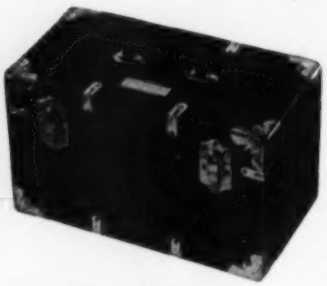
Dear Doctor:

. . . Our committee has received a clipping from the —— Journal [and] . . . was requested to write an opinion on this article relative to its merits from an ethical standpoint. . . .

Many of the violations which come to the attention of our committee are due to lack of knowledge of the principles of medical ethics, but in other cases there is a total disregard for such principles.

(*Continued on p. 54*)

CASES



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PRACTICAL

Plywood Construction — covered with sheet steel — Black, baked enamel finish, brass trim, corner reinforcements — Full length and width tray for instruments or accessories — Ideal as "aute kit".

For Further Information write

Nicholson Manufacturing Inc.
2540 E. 3rd Ave.
DENVER 6, COLORADO

(CLASSIFIED ADS—*continued from p. 50*)

Capable of grossing in excess of $30,000. Owner expects to be drafted soon; $5,000 down payment will handle. Excellent building, favorable lease; large modern apartment available. Address "Box H 3," c/o JOURNAL of the AVMA.

Established 80% small—20% large mixed practice for sale in suburban area of Connecticut. Completely equipped modern brick small animal hospital, $40,000. Address "Box H 6," c/o JOURNAL of the AVMA.

For sale by estate, modern cat-dog hospital, completely equipped, in growing business-residential area of Seattle. Established business. Corner location on two main streets. Gross income 1952, $27,357.90; 1951, $27,675.17; 1950, $26,021.14. Annual net before depreciation over $16,000. For complete details write Trust Department, Seattle-First National Bank, P.O. Box 3347, Seattle 14, Wash.

Mixed practice in Oregon for sale or lease. Fully equipped small animal hospital; small apartment for attendant. 1952 gross $26,000. Price, $20,000; $5,000 down, balance monthly. Address "Box J 2," c/o JOURNAL of the AVMA.

For sale in northern New Jersey's prosperous dairy region, a beautiful home, small barn, with other outbuildings, spring-fed pond, eleven acres on main road. Most suitable for veterinary hospital and home. Address "Box J 9," c/o JOURNAL of the AVMA.

(*Continued on p. 53*)

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MAIL COUPON TODAY!

(CLASSIFIED ADS—*continued from p. 52*)

Small animal practice for sale including 7-room house, 2 full bathrooms, laundry, automatic steam heat; hospital, 5 rooms, and kennel, all equipped, automatic heat; 2-car garage. Established 1924, remodelled 1940; corner lot; residential section 1 mile from business district; city of 100,000 in Massachusettes. Address "Box J 5," c/o JOURNAL of the AVMA.

Veterinary practice for sale. Death makes available lucrative and interesting practice with exclusive clientele where there is need for capable and energetic doctor; house and completely equipped small animal hospital with kennels and outside individual concrete runs on 41 acres in valley of beautiful Sewickley Heights Township, Pennsylvania, approximately 10 miles from city of Pittsburgh. Address William J. O'Brien, Attorney, 908 Finance Building, Philadelphia 2, Pa.

Well-equipped small animal hospital for sale. Ideally located on busy U.S. highway; 100-ft. lot, 32 by 40 ft. block building, $12,600. Address Washington Realty Co., Washington, Ill.

A golden opportunity for veterinarian who wishes to semi-retire in California. New home with small hospital for sale and a good net with little work. Terms. Address "Box G 20," c/o JOURNAL of the AVMA.

Remittance must accompany order

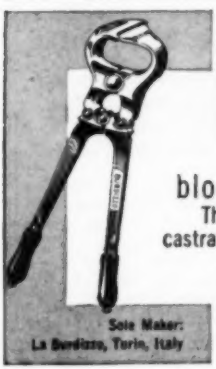
Well-established small animal hospital and 5-room home for sale. Two buildings in choice location in city of 50,000. Plenty of large animal practice if desired. Mild winters. Price $20,000; $5,000 down. Dog Hospital, 1932 Midland Blvd., Fort Smith, Ark.

Lucrative mixed practice for sale in southern California; includes new brick home with small animal clinic. $10,000 down and balance monthly at 6% interest. Total price, $29,500. Address "Box G 22," c/o JOURNAL of the AVMA.

Wanted to Buy

WANTED—a 25- to 50-lb. powder mixer. Describe what you have and price. Address P. Roy, 4443 Atlantic Blvd., Jacksonville 7, Fla.

(*Continued on p. 56*)



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T. M. Reg.
bloodless castrator
The "Burdizzo" eliminates castration losses . . . no shrink . . no infections . . . no screwworm risks! Order from Jensen-Salsbery Laboratories, Inc.
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When night calls take you into the dark
Carry "DAYLIGHT" with you
Big Beam
HERMETICALLY
SEALED BEAM
HAND LAMP

Model 166
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less standard 6-volt lantern battery

With a Big Beam in your hand, you can turn darkness into "daylight" . . . anywhere, any time. We would like to send you all the facts about this and other Big Beam models, used by veterinarians all over the country. Big Beam is America's favorite line of portable electric hand lamps, flares, and emergency lights. Write today.

U-C LITE MFG. CO., 1043 W. Hubbard St., Chicago 22, Ill.

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For Eye Infections
Sulf-I-Spray
Sulfacetimide sodium 25%
Fluorescein sol. qs
For treating keratitis (pink-eye) and external infections susceptible to sulfonamide medication.
Fluorescein aids in diagnosis of corneal lesions.
Two convenient packages
3¾ oz *plastic* spray bottle
1 bottle . . *2.00* ½ dozen . . *11.40*
1¾ oz *plunger* spray bottle
1 bottle . . *1.00* dozen . . . *11.40*
Select Pharmaceuticals for the Veterinary Profession since 1918
CURTS-FOLSE *laboratories*
KANSAS CITY, KANSAS

Sold only to Graduate Veterinarians

FUNGASARC

for the effective treatment of skin conditions

Destroys fungi; sarcoptes scabei canis; demodex canis; mites; fleas; lice. Repels ticks. Non Staining; not greasy; has no objectionable odor, destroys odors of external origin. Non Toxic; may be used daily in recommended dilution. Concentrated; one gallon makes four.

Gallon	Quart
$13.95	$4.00
Makes 4 gallons	Makes a gallon

Available nationally through well known Distributors

Osco Chemical Company, Inc.

P.O. Box 2157, Atlanta 1, Georgia

(CORRESPONDENCE—*continued from p. 51*)

Paragraph 8 of our present Code of Ethics . . . states, "Advertising as a means of obtaining patronage is objectionable in the practice of any branch of medicine."

Under paragraph 9, Section E and F, we have some specific forms of objectionable advertising: "Advertising case reports allegedly unintentional" and "Advertising hospital and office equipment and the special service rendered therewith."

The article mentioned above in which your picture appeared together with that of a pointer dog, stating that you are to open the state's first blood bank for dogs, is in our opinion a violation of paragraph 8 and portions of paragraph 9 of the AVMA Code of Ethics.

. . . this could have been a very fine example of "public relations information" merely by editing it. . . . It would then have met the requirements of paragraph 15 of our Code which states: "Members are encouraged to write articles for the local press . . . provided the motive is a bona fide attempt to salvage livestock of clients, rather than personal gain. Wisely worded articles of this type add to the dignity and usefulness of the veterinary profession. . . . "

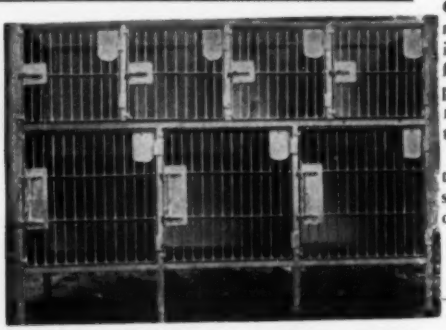
However, it is the duty of this committee to call these matters to the attention of our members, especially when requested to do so by a local or component association of the AVMA.

We call your attention to paragraph 2 of our Code, which states: "It is the solemn duty of all members of the Association to deport themselves in accordance with the spirit of this Code." And from the preamble, "The honor and dignity of our profession lies in our obedience to a just and reasonable code of ethics set forth as a . . . guide to the members."

We are sure that you will receive this letter in the same vein in which it is written; one of constructive enlightenment; which is our duty as a committee. . . .

Very sincerely yours,
AVMA COMMITTEE ON ETHICS
Raymond C. Snyder, V.M.D., *Secretary.*

(*Continued on p. 55*)



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American Veterinary Medical Association

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(CORRESPONDENCE—*continued from p. 54*)

April 29, 1953

Dear Editor:

In a very fine article appearing in the May, 1953, issue of the JOURNAL, . . . "The Continuing Quest for the Cause of Bloat in Ruminants," by R. W. Dougherty, reference was made to an article of mine, "A Note on Eructation in Sheep as Related to Rumen Fluid Level and Gas Insufflation," published in the *American Journal of Veterinary Research* (July, 1951: 199-200). From Dougherty's article one might reasonably assume that the only pressures . . . used to produce death in the 12 sheep of my article were 5-10 lb. per square inch . . . only 1 of the 12 sheep which died, following overloading of the rumen with water and insufflation with gas, was insufflated at 10 lb. per square inch; 3 at 5 lb. per square inch; 1 at 3 lb. . . .; 1 at 2½ lb. . . . and 6, or half of the 12, at 1¼ lb. per square inch. With the 6 sheep at 1¼ lb. per square inch, death was produced at about 65½ mm. of mercury, which is within the range reported in dead bloated cows by Olson and slightly lower than the 72-75 mm. reported by Dougherty. The animals insufflated at higher pressures might also have died at lower pressures —just how low I do not know. The remarkable point is that the rumen of the one sheep withstood 10 lb. per square inch without rupture until its death. How much pressure a rumen can stand I do not know. . . .

s/ R. E. Nichols, D.V.M., *Professor of Veterinary Science, University of Wisconsin.*

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(CLASSIFIED ADS—*continued from p. 53*)

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Miscellaneous

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The dog book of books—all subjects, complete reference work, hundreds of pictures—Judy's Dog Encyclopedia, $10. Every small animal practitioner needs this authoritative book. Judy Publishing Co., 3323 Michigan Blvd., Chicago 16.

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Artificial insemination instruments. Disposable obstetrical sleeves 20¢ each. Package of 20 including detachable chest band — $5, postpaid. Samples and complete catalog on request. Breeders Equipment Co., Flourtown, Pa.

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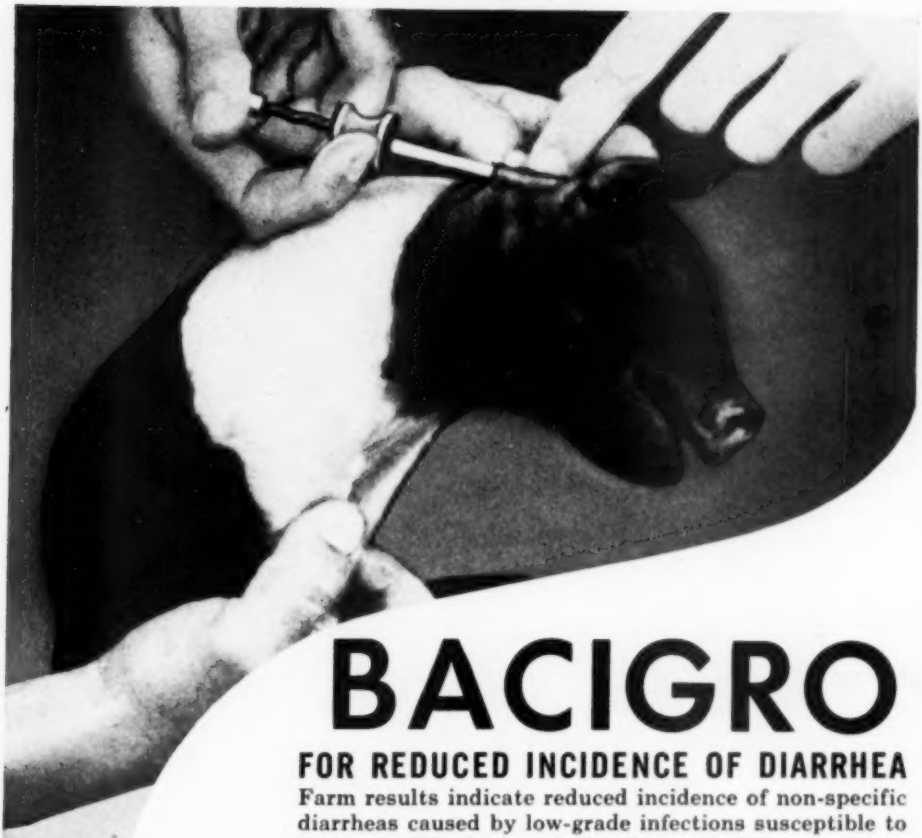

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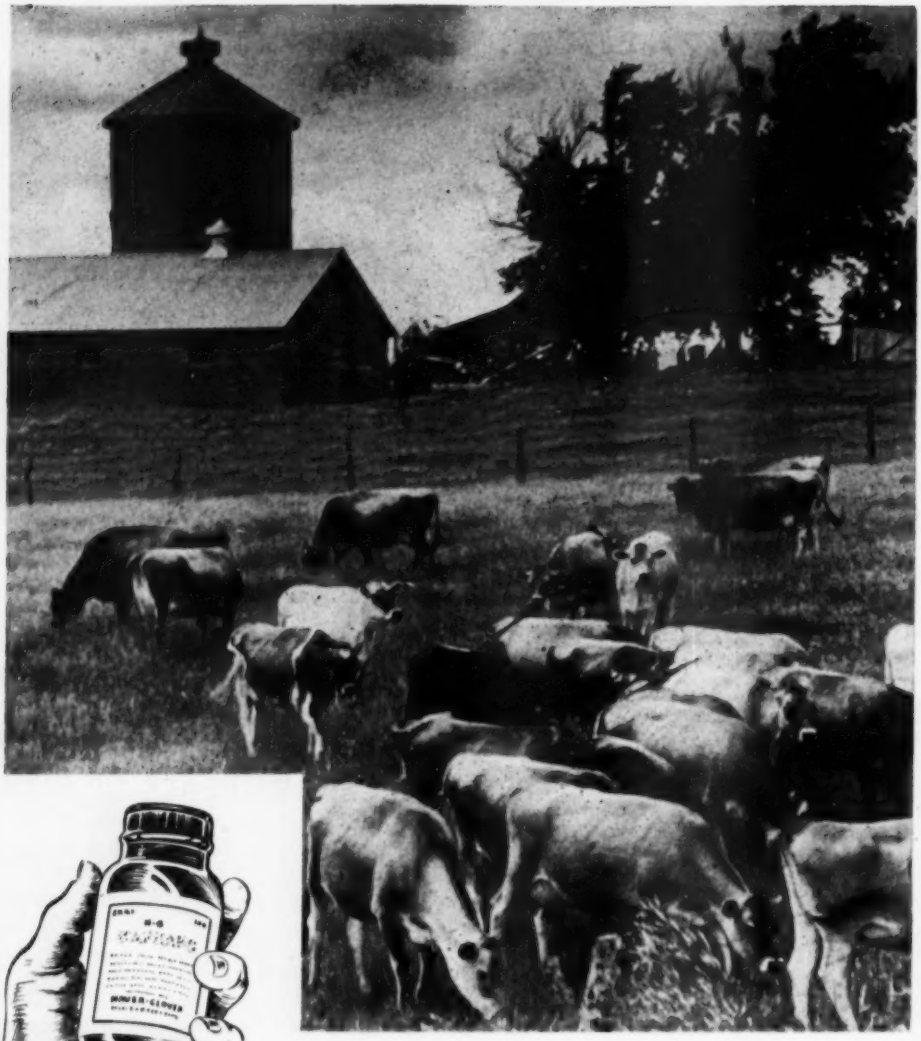

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